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Original Articles.

REPORT OF TREATMENT OF CARCINOMA OF CERVIX AT THE HUNTINGTON HOSPITAL FOR PERIOD OF FOUR YEARS.

By Edward H. Risley, M.D., Boston,
Surgeon to Collis P. Huntington Hospital

and

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Surgeon to Out-Patients, Collis P. Huntington Hospital.

This paper is a report of the results obtained in the treatment by radium of a series of 113 cases of carcinoma of the uterus at the Huntington Hospital from January, 1912, to June, 1916, inclusive.

In order to form a proper estimate of the value of treatment it is necessary to divide the cases into several definite groups; otherwise, statements in regard to results in cancer of the uterus are of little value unless we consider the groups separately.

Group I.—Cases of border-line operability in which pre-operative radium treatment aims at a reduction in the size and fixation of the mass, rendering the chance of total extirpation more promising.

Group II.—Cases accepted for prophylactic radiation following radical hysterectomy.

Group III.—Those of recurrence following hysterectomy.

Group IV.—Those of recurrence or continuation following curettage or cauterization.

Group V.—Those which were primarily and unquestionably inoperable. There have been no cases accepted for radium treatment alone where radical hysterectomy seemed possible.

Case histories have been examined especially with the idea of forming some estimate of what the first symptoms were that brought the patient to her physician, of what type the local physical signs and findings were, of forming as nearly as possible a probable prognosis, of getting an idea as to what the general effects of radium treatment were, and of determining in what percentage of cases a positive pathological report was made.

In the early months of the hospital five cases were treated by injections of ascitic fluid. Twenty-three cases were examined, but for some good reason were not treated and are not included in the study of this series. Ninety cases were taken as a basis of study. All of these received radium treatment.

It has been very gratifying to find that a large number of our cases are referred from other hospitals, both for consultation and for treatment. It was found that fifty-six cases were referred from other institutions, and thirty-four from physicians elsewhere. The oldest case treated was 68, the youngest 30, and the average about 50 years.

First symptoms were reported as flowing in 84 cases, pain in 5, and amenorrhea in 1. Local physical signs were recorded as follows: ulceration only, 3 cases; sinus, 5 cases; implantation on vaginal wall, 21 cases; implantation on abdominal wall or in abdomen, 3 cases; glandular metastases (at time of admission), 5 cases; cervix nodular (plus other signs), 19 cases; mass in vault, 24 cases; ulcerated or necrotic mass, 35 cases; crater, 25 cases; extension to vaginal walls, 28 cases; bleeding of greater or less degree, 42 cases; extension to broad ligaments, 33 cases; pelvic masses, 7 cases; involvement of bladder, 6 cases; involvement of rectum, 4 cases; fixation of uterus or broad ligaments, 13 cases. Thus it is evident, therefore, that cases of all grades of severity were accepted for treatment, and no effort was made to pick out only the probably favorable ones.

The prognosis was stated as favorable, probably favorable, or border-line in 16 cases; unfavorable in 39 cases; very unfavorable or hopeless in 22 cases; and not stated in 13 cases. Of these reported as favorable, there are today 3 alive without recurrence, 2 with a question of recurrence, 4 not doing well (disease progressing), 6 dead, and 1 lost track of. These were all originally post-operative recurrent cases. All of the cases reported as unfavorable are dead except one, as are all of the hopeless cases.

Pathological reports made, either at the Huntington Hospital, or before entrance, were recorded in 38 cases. No pathological report was made, or at least was not recorded, in 52 cases. This small number of pathological reports is accounted for partly from lack of accurate data obtainable from patients coming to us from remote regions and partly because of the policy of the hospital not to cut into suspicious tissues because of the very real danger of dissemination of the disease. Practically all of the cases, however, have been unmistakably carcinoma as far as clinical signs go. The disease was reported as carcinoma in 12 cases, adenocarcinoma in 7 cases, squamous cell in 9 cases, epithelial in 3 cases. Specimen taken but no pathological report in 7 cases.

In general the effects of the radium treatment are recorded as follows: temporary local benefit, 44 cases; much improved, 5 cases; entire relief from pain, 5 cases; some relief of pain in all but a few complaining of this symptom; complete relief from bleeding, 14 cases; healing of ulceration, 11 cases; decrease in the size of the growth, 8 cases; no improvement at all in 13 cases; increase in the growth (some rapid) in 30 cases; fistula (vesico-vaginal) developed in 2 cases; mass made more movable in 8 cases.

Mortality. There were 2 deaths from disease other than carcinoma,—1 from pneumonia and 1 from pelvic abscess. The results remain unknown in spite of a very efficient follow-up system in 7 cases. The total mortality dated Feb. 1, 1917, is 62 cases. There are 21 cases in this series still under treatment for observation.

The radium has been applied:

Per vaginam in 89 cases.
Per rectum in 1 case.
Over abdominal scar in 1 case.
Over inguinal glands in 2 cases.

The dose in this series has averaged less than 1000 millicurie hours.

Hemorrhage has been easier to control than pain because the superficial ulcerations are more readily affected than the deep extensions. The latter have been rarely improved and if so only temporarily. The healing of the vaginal disease is often accompanied by contraction of the vagina, which renders difficult satisfactory apposition of radium to the persisting deeper extensions. Long exposure with screening of the superficial radium rays has been preferable to short exposures without screening, except in rare instances of very superficial vaginal recurrent lesions.

Group I.

The number of cases treated as a preliminary to operation is very small—only 5. It is probable that pre-operative radium to the cervix and vault and over the abdomen acts in some measure like the Percy cautery in that it kills some cancer cells, and allows some softening of the mass without scattering cancer cells, checks foul discharge, and leaves a somewhat cleaner mass to be removed.

Many operators affirm that operation soon after radiation is much more difficult because of greatly increased venous bleeding, and that the operative difficulties are increased, also because of the foundation of adhesions and fibrous tissue. We believe, however, that pre-operative treatment is a line that should have the benefit of much further trial. We are also positive in our belief that none of these cases should be allowed to go without thorough post-operative radiation as well. It is never possible to tell, even in the widest surgical direction, when all cancerous cells have been removed, therefore, these cases which were of the border-line type would seem to be the type in which post-operative prophylactic radiation was the logical procedure.

There were five cases of border-line operability (as determined by more or less fixation of the broad ligaments or uterus), in which, after a certain amount of the radium treatment, the mass became more movable and which were then considered operable. Of these, three are alive today, one eighteen months after operation and without symptoms, one twelve months after operation and without recurrence, one twenty months after operation but with local recurrence. Two are dead,—one died three weeks after operation (cause not stated), and one free from disease for two years after operation, then recurrence and death after four months of radium treatment. If this method is given extensive trial there may result numbers of seemingly inoperable cases which will be given a chance at operation and a possible further escape from extension of the disease.

Group II.

The policy of the hospital in the early days of treatment was to wait for definite signs of recurrence before attempting anything in the way of prophylactic radiation. With the advent of greater familiarity with the conditions under which recurrence takes place and the examination of the great number of suspicious cases, and also with the increasing realization that it is within no man's power to determine, even in the most extensive and radical removal of glandular areas, when all cancerous cells have been removed, it has gradually become our policy to accept for prophylactic radiation after hysterectomy these cases in which, in the surgeon's opinion, the disease probably was not entirely eradicated.

In view of the reports from other workers with radium and our increasing efforts to deal with precancerous conditions, it seems rational that we should more and more frequently treat all our malignant disease post-operatively by prophylactic radiation, either with radium or x-ray. This is certainly a logical procedure, and it is our hope that the profession in general will recognize this and send cases directly after operation for a course of prophylactic radiation.

Our series shows an altogether too small number of this type of cases—five in all; of these, three are now alive and without disease fifteen months after operation and one with disease twelve months after operation. One case is not traced to date, but was free from disease for eight months after operation. One case died of recurrence fourteen months after operation.

Group III. Post-operative or Recurrent Cases.

The follow-up system in all cases, now becoming more and more effective in our hospitals, is already producing results in that we are beginning to get post-operative cases back for observation regularly and are able to treat them vigorously at the very first suspicion of any recurrence if for any reason we do not see fit to institute prophylactic treatment. The future outlook for such cases seems good. Early radical operation with early radiation of recurrence ought to produce greatly better results.

It can be pretty definitely stated that very superficial or small recurrence in the vault of the vagina, especially those which manifest themselves as superficial ulcerations, are practically always favorably affected by the radium. Dense nodular recurrences are more difficult to penetrate and more often accompanied by lymphatic involvement and hence less favorable. Recurrences after hysterectomy generally occur in the vagina, either along its walls or in the vault in the scar of operation. If taken early these cases generally respond quickly to radium.

This group comprises 37 cases recurrent after hysterectomy—16 after the Wertheim operation and 21 after hysterectomy of type not stated. Three of these have not been traced. Eight are alive today and without disease, 2 with a question of recurrence and five with definite recurrence. Twenty are dead, and the average duration of life after operation and the beginning of radium treatment was eight months.

Group IV.

This group comprises recurrent cases of all stages of recurrence; a great many of them being advanced and with large masses of malignant tissue to deal with,—a class carrying a prognosis almost equally as bad as the originally inoperable cases. These cases which return for radiation early after first suspicion of disease can definitely be given a hopeful prognosis of a considerable prolongation of life, with much relief from pain and delay in the progress of the disease. The least favorable group of cases is that in which there is recurrence or continuation of the disease following curettage or cauterization.

Practically all of these cases were received anywhere from two weeks to eight months after the palliative operation, and in almost every case there had been steady progress of the disease since the operative procedure. These cases have not done particularly well. It is believed that, on the other hand, if cases can be thoroughly cauterized, getting rid of practically all of the diseased area, a real crater formed of the cervix and radium immediately placed in the cavity, better results can be obtained. There were 21 cases. Two are not traced. One is alive and without recurrence nineteen months after beginning radium, and 3 were lost sight of. Four others are alive, but all with disease with an average of ten months after beginning radium treatment. Fifteen are dead, with an average duration of eight months after institution of treatment.

Group V.

As would be expected, every clinic shows a larger number of inoperable cases sent for radiation than any other type of case. A general statement only in regard to this type of case can be made, as follows. Probably only palliation can be hoped for. A cure is rarely to be expected in the light of our present knowledge of radium technic. There are enthusiasts who offer more hopeful opinions, but the mass of cases treated is not yet large enough to be at all convincing. However, much relief from distressing symptoms can be brought about in this unfavorable type of cases, even if extension into the broad ligaments and lymphatics destroys all chance of cure.

There are three things that radium can do in practically every case. It can check hemorrhage, stop to a large extent foul discharge (of course depending on the size of the growth), and in many cases it does control pain. We never predict to patients that we surely can do any of these things, but we can give them a reasonable assurance that such will be the case. Certainly energetic radium treatment in the inoperable case offers more in the way of relief from symptoms than the use of the red hot cautery and curettage as formerly employed, and numerous writers believe the prolongation of life is greater.

In this connection, it would seem wise in making any statement in regard to radium, as well as any other non-operative form of treatment, to be conservative and consider well all the factors entering into the improvement of the patient. The temporary improvement seen in many cases is undoubtedly due, in some instances, to the recuperation of the system dependent on checked bleeding. The temperature arising from the absorption of toxic products is lowered and a general improvement is felt by the patient, who thereby gains new courage from the psychic as well as the physical factors involved.

This group includes 22 cases comprised entirely of definitely inoperable cases; only 1 has not been traced. There are 3 alive, all with disease with an average duration since starting radium treatment of 22 months. These are interesting figures, showing the apparent retardation of growth and bettering of general conditions following radium in this type of case. Apparently the original growth is of a more slowly progressing nature under radium in these cases than recurrent growths after hysterectomy. There are 18 cases dead, all with disease with an average duration of life after the beginning of radium treatment of nine and a half months.

A summary of these grouped cases shows:

Five without disease—one, 18 months; one, 15 months; two, 12 months; one less than 6 months.

Twenty-one alive (two with question of disease less than 6 months)—seven not traced but two free from disease eight or nine months after it started; fourteen with disease.

Sixty-two are dead.

The points of interest and value brought out in this analysis are as follows: Much symptomatic relief can be expected from radium treatment, especially in the checking of hemorrhage and alleviation of pain. Prophylactic radiation immediately following hysterectomy is a logical, safe and advisable procedure and should reduce the number of recurrences. The treatment of early recurrences offers a fair prognosis. Late treatment offers little but alleviation of symptoms and but little retardation of growth. Inoperable cases are benefited by radium and the period of life is somewhat prolonged. Radium should be given more extended and earlier trial in these cases. It is believed that every case operated on should be required to report for observation once a month for the first year and once in three months for the second year and at frequent intervals for each succeeding year. Only in this way can early recurrences be detected and early institution of radium treatment be started.

* * *

NORMAL WEIGHT.

BY HORACE GRAY AND K. M. GRAY, BOSTON.

IN the course of some recent work on lipoids in diabetes, which will appear in this JOURNAL in January, the question came up, "What is normal weight?"

Often the answer must be a guess, owing to lack of data at hand. Even in practice a guess may be inadequate, while it becomes worthless in research.

The usual age-weight tables have of late been regarded as inferior to an age-height-weight coefficient.

Wood, T. D.: The 9th Yearbook of the National Society for the Study of Education, Part I, Health and Education, Chicago, 1910, p. 34.
Medico-Actuarial Mortality Investigation, Vol. I, Statistics of Height and Weight of Insured Persons, compiled and published by the Assn. of Life Insurance Directors and the Actuarial Society of America, N. Y., 1912, pp. 38 and 67.

Superior to this again would be an *American*-age-height-weight index. Such a standard I have found only in the above two sources. As the original tables were traced with considerable difficulty, their reproduction is the main object of this paper.

In defence of the varying classic age-weight tables,[1] however, and as an indication that finality will remain an academic ideal until the nations have become much more intermingled, the following points may be noted in passing:

1. Insurance experts allow 20% plus or minus as a safe variation from the supposedly healthy average normal weight.
2. Considerable variation exists between the averages of different countries, and (within the same country) of different cities.
3. In more than 74,000 observations there was "a difference of five (5) inches between the average stature of the best and worst nurtured classes of the community. . . while. . . at birth children are of the same average size in all classes."

Farr, W., *et al.*: Anthropometric Committee, Report of British Assn. Adv. Sc., 1880, p. 120.
Galton, F., *et al.*: *Ibidem*, 1881, p. 225.

This defence is fortunate since we must rely on age-weight tables for the remaining two of the four age groups usually followed:

I. Birth	American age-weight
II. 1-4 years	
III. 5-14 years	American age-height-weight
IV. 15 and over.	

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[1] Vierordt, H.: Daten und Tabellen für Mediziner, Ed. 3, Jena, 1906, collates the figures of more than 50 investigators.

It will be noticed that these groups differ from those familiarly followed for physical purposes other than weight:

A. Infancy (through the 2d year).
B. Childhood and adolescence.
C. Adult life.

Age Group I.

Table 1. Heights and Weights of Children at Birth. (Without Clothes.)

Sex	Number	Heights Inches	Weights Lbs.
Boys	231,590	20.6	7.6
Girls	211,568	20.5	7.2

Holt, L. E.: Diseases of Infancy and Childhood, Ed. 7, N. Y., 1916, p. 15.

Kerley and Morse both follow Holt for this group.

Kerley, C. G.: Practice of Pediatrics, Philadelphia, 1916, p. 41.
Morse, J. L.: Case Histories in Pediatrics, Boston, 1913, p. 12.

Age Group II.

Table 2. Heights and Weights of Children between 1–4 Years of Age (Without Clothes).

5602 Boys 4821 Girls

Height in.	Weight lbs.	Age mos.	Height in.	Weight lbs.
26.5	18	6	25.9	16.8
27.3	19.1	7	26.5	17.4
27.6	19.8	8	27	18.3
28.1	20.4	9	27.6	19.1
28.5	20.9	10	27.9	19.5
29	21.4	11	28.4	20.1
29.4	21.9	12	28.9	20.8
29.9	22.9	13	29.4	21
30.3	23	14	29.5	21.6
30.8	23.6	15	30.1	21.9
31.1	24.1	16	30.5	22.6
31.4	24.5	17	30.8	22.9
31.8	24.6	18	31.1	23.4
32.3	25.5	19	31.5	23.8
32.6	25.8	20	32	24.1
32.9	25.8	21	32.3	24.8
33.3	26.9	22	32.6	25.3
33.6	27	23	32.9	25.6
33.8	27.1	24	33.4	26.4
34	27.9	25	33.8	26.9
34.1	28.3	26	33.9	27.3
34.8	29	27	33.9	27.5
35.1	29.1	28	34.6	27.8
35.4	29.3	29	34.8	27.8
35.4	29.5	30	34.9	28.3
35.5	30.5	31	35.1	28.6
36	30.6	32	35.4	29
36.1	30.6	33	35.6	29.1
36.5	31.1	34	36.5	30.1
36.8	31.9	35	36.5	30.3
37.1	32.3	36	36.8	30.5
37.4	32.3	37	36.8	30.8
37.5	32.4	38	37	31
37.9	33.1	39	37.3	31.6
38.5	33.5	40	37.5	32
38.6	33.6	41	37.8	32.3
38.6	33.8	42	38	32.5
38.8	33.8	43	38.3	32.8
38.9	34.5	44	38.5	33
39	34.5	45	38.5	33.3
39	34.8	46	38.8	33.5
39.5	35.6	47	38.9	33.5
39.5	35.9	48	39	33.8

Crum, F. S.: Quarterly Publication of the American Statistical Assn., Sept., 1916, N. S., No. 115, Vol. xv, Boston, pp. 332-336, and also printed by the American Med. Assn., on a card, in the "Anthropometric Table."

The following quotations from Crum are pertinent. The insert in brackets is from a personal communication by the same expert.

"About 1910 the *Woman's Home Companion* inaugurated a novel plan to direct public attention to the fact that our children are less perfect physically than is generally assumed to be the case. . . Up to 1914 the table of standards with which children under 5 years were compared was based upon too small numbers to warrant its use for anything more than approximate averages. . . During the year 1914 a new development of the central purpose of Better Babies Contests was fostered by the Committee on Public Health and Instruction of the American Medical Assn., but under the title 'Baby Health Conferences.' The measurements at both contests and conferences are made in. . . accordance with instructions which go with the score cards. . . In the early part of 1916 I found that the aggregate. . . exceeded 10,000, and this was thought to be a sufficiently large number to give. . . a revised standard anthropometric table for children of ages 6 to 48 months, both inclusive. . . This table, and the preliminary one in 1914, are thought to be the first for this country constructed in just this way—that is, from healthy children, all measured according to uniform rules and, in the main, by physicians, nurses, or other specially instructed persons. These tables differ somewhat from those referred to by pediatrists. . . (These of mine may be regarded, possibly, as somewhat supernormal, or above average. The average measurements, however, are more typical of healthy children than those obtained from children in hospitals). The great majority of the children whose measurements are included in this table were of American-born parents; the children, however, were of different stocks, including German, Irish, Swedish, some Italian, and some of various other races. It would be desirable to have similar tables for the different racial elements, and perhaps even for different sections of the country. There is some evidence that the average measurements, even of these young children, would be found to differ, in the South, for instance, as compared with the North and West, entirely aside from the probable racial differences. It would seem, however, that this table, being based upon measurements of normal healthy children in various sections of the country, should serve as a fair guide for many practical purposes without any additional refinements."

The "6 months to 60" Score Card of the Better Babies Bureau of the *Woman's Home Companion* was based[2] "upon Boas originally and was later modified to suit our own needs. We found, after holding a great many contests, that Boas' figures were low, at least for the prize babies that came into the contests; in other words, that there were too many 100% babies under these standards. The Better Babies' contests were unique in that they brought together healthy, instead of sick, babies; and it was perhaps for that reason that we failed to find the Boas standards satisfactory for our purposes. We believed that the highest possible standard should be set for babies entering these contests, even if these standards were above the measurements of the average child. We therefore set as our standard a height which was an inch to an inch and a half greater than Boas' figures, and a weight which was one to one and a half pounds greater than Boas' standard. The other measurements were correspondingly increased, except in the case of the circumference of the head, a large head often being an indication of rickets or other diseased conditions. For this reason our figures probably will not interest you, since they are not based upon accurate and scientific investigation, such as are Boas' or Burk's, Bowditch's and Porter's, and were, therefore, never published" except as the Score Card, a loose sheet easily obtainable from the magazine.

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[2] Lane, Gertrude B.: Personal communication.

Holt has a table for this period from 1 to 4 years, based on about 2000 personal observations.

Kerley and Morse each follows Holt.

The Life Extension Institute uses[3] for this period a table compiled by the Metropolitan Life Insurance Company.

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[3] Personal communication.

Age Group III.

Table 3. Heights and Weights of Boys Between 5–14 Years (Without Clothes).

BOYS

Weight in Pounds — Without clothes

Height in Feet and Inches — without shoes

AGE	3-3	3-4	3-5	3-6	3-7	3-8	3-9	3-10	3-11	4	4-1	4-2	4-3	4-4	4-5	4-6	4-7	4-8	4-9	4-10	4-11	5	5-1	5-2	5-3	5-4	5-5	5-6	5-7	5-8	5-9	5-10	5-11	6	6-1
5	35	38	39	41	42	46																													
6		36	39	41	42	44	46	48																											
7					42	43	46	48	49	54																									
8							45	48	50	53	54	57	59																						
9									50	53	55	58	60	62	62	65																			
10										53	55	58	60	62	65	68	69	71																	
11													61	61	65	68	71	77	77	78															
12														63	67	70	75	76	79	84	84	85													
13															67	71	75	78	80	85	86	91	98	99	100										
14															67	71	76	79	82	86	90	94	97	103	107	114	122								
15																		79	82	87	91	95	98	106	112	118	119	121	128	133					
16																						90	96	104	112	120	122	125	129	133	134	136			
17																								104	110	117	122	125	128	130	136	140	140		
18																									118	120	120	128	131	136	139	143	146		
19																										120	126	129	134	136	139	144	146	149	
20																											125	130	132	136	139	145	146	154	165

Table 4. Heights and Weights of Girls between 5–14 Years (Without Clothes).

GIRLS

Weight in Pounds — Without clothes

Height in Feet & Inches — without shoes

AGE	3-3	3-4	3-5	3-6	3-7	3-8	3-9	3-10	3-11	4	4-1	4-2	4-3	4-4	4-5	4-6	4-7	4-8	4-9	4-10	4-11	5-0	5-1	5-2	5-3	5-4	5-5
5	34	37	38	41	41	45																					
6		35	37	39	41	43	45	48																			
7				39	42	44	45	47	50																		
8						42	45	47	49	51	53	56															
9									49	51	53	56	59	63													
10											54	57	58	62	64	69											
11													60	62	63	68	70	75									
12														63	66	69	71	75	78	83	88	94					
13															65	68	73	76	80	86	89	94	99	104			
14																		78	83	88	93	96	100	104	107	112	114
15																				89	97	100	102	106	109	118	118
16																					100	104	108	111	116	116	121
17																						109	109	110	110	117	125
18																						103	106	107	112	114	120
19																						99	105	111	113	119	123
20																						99	111	114	119	115	125

Of this table Professor Wood remarks (*loc. cit.*):

"Weight increases with height and age in normal children. A child who is short in stature for his age is apt to be under weight. This will help to explain how the mean weight of boys 16 years old and 60 inches high (90 lbs.) is less than the mean weight of boys 15 years old and 60 inches high (95 lbs.). Similarly, children very tall in relation to age are in some cases lighter than children of the same height but one year younger. The heights and weights of these tables were taken *without* clothing. Weight of clothing ranges from about 3 lbs. in five-year-old children to 6 or 7 lbs. in older pupils, and is slightly greater for boys' than girls' clothing." He adds[4]: The table was based "primarily on our statistics on several thousand boys and girls in our Horace Mann School, connected with Columbia University, and I tested the material, or rather checked it up by comparison with the statistics of Boas, Burk, and one or two other investigators in the field of the growth of children. The Horace Mann School is the largest private non-sectarian day school in the United States. The children, therefore, belong to a somewhat favored social class. I thought that the statistics would be above the average children in the general population, but by comparing our statistics with those gained in studies made in St. Louis, Kansas City, Oakland, California, and in some other cities, I came to the conclusion that the figures of children in the Horace Mann School were fairly representative of healthy children in the United States."

Among other authors giving figures for this period are:

Boas	following	own data
Burk	"	own data
Carr	"	Bowditch
Chapin and Pisek	"	Boas and Burk
Dennett	"	own (?)
Dunn	"	Griffith, own (?)
Fischer	"	Holt, *i.e.* Bowditch
Graham	"	own (?)
Holt	"	Bowditch and Porter.
Kerley	"	Holt, *i.e.* Bowditch
Koplik	"	Budin, Camerer, own (?), Bowditch, Burk, MacDonald, and Hastings.
Life Extension Institute	"	Metropolitan Life Insurance Co.
Morse	"	Boas, Burk
Rachford	"	Porter, Chapin, Koplik, *et al.*
Rotch	"	Bowditch
Ruhräh	"	Boas, Burk, Griffith
Still	"	own (?)
Tuttle and Hurford ..	"	own (?)

Boas, F.: Science, N.S., I, Apr. 12, 1895, p. 402.

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AGE GROUP IV.

Table 5. Heights and Weights of 221,819 Men of 15 or More Years of Age (With Clothes).

	Graded Average Weight in Lbs. with clothes																	
	Feet & Inches with shoes																	
Age	5-0	5-1	5-2	5-3	5-4	5-5	5-6	5-7	5-8	5-9	5-10	5-11	6-0	6-1	6-2	6-3	6-4	6-5
15	107	109	112	115	118	122	126	130	134	138	142	147	152	157	162	167	172	177
16	109	111	114	117	120	124	128	132	136	140	144	149	154	159	164	169	174	179
17	111	113	116	119	122	126	130	134	138	142	146	151	156	161	166	171	176	181
18	113	115	118	121	124	128	132	136	140	144	148	153	158	163	168	173	178	183
19	115	117	120	123	126	130	134	138	142	146	150	155	160	165	170	175	180	185
20	117	119	122	125	128	132	136	140	144	148	152	156	161	166	171	176	181	186
21	118	120	123	126	130	134	138	141	145	149	153	157	162	167	172	177	182	187
22	119	121	124	127	131	135	139	142	146	150	154	158	163	168	173	178	183	188
23	120	122	125	128	132	136	140	143	147	151	155	159	164	169	175	180	185	190
24	121	123	126	129	133	137	141	144	148	152	156	160	165	171	177	182	187	192
25	122	124	126	129	133	137	141	145	149	153	157	162	167	173	179	184	189	194
26	123	125	127	130	134	138	142	146	150	154	158	163	168	174	180	186	191	196
27	124	126	128	131	134	138	142	146	150	154	158	163	169	175	181	187	192	197
28	125	127	129	132	135	139	143	147	151	155	159	164	170	176	182	188	193	198
29	126	128	130	133	136	140	144	148	152	156	160	165	171	177	183	189	194	199
30	126	128	130	133	136	140	144	148	152	156	161	166	172	178	184	190	196	201
31	127	129	131	134	137	141	145	149	153	157	162	167	173	179	185	191	197	202
32	127	129	131	134	137	141	145	149	154	158	163	168	174	180	186	192	198	203
33	127	129	131	134	137	141	145	149	154	159	164	169	175	181	187	193	199	204
34	128	130	132	135	138	142	146	150	155	160	165	170	176	182	188	194	200	206
35	128	130	132	135	138	142	146	150	155	160	165	170	176	182	189	195	201	207
36	129	131	133	136	139	143	147	151	156	161	166	171	177	183	190	196	202	208
37	129	131	133	136	140	144	148	152	157	162	167	172	178	184	191	197	203	209
38	130	132	134	137	140	144	148	152	157	162	167	173	179	185	192	198	204	210
39	130	132	134	137	140	144	148	152	157	162	167	173	179	185	192	199	205	211
40	131	133	135	138	141	145	149	153	158	163	168	174	180	186	193	200	206	212
41	131	133	135	138	141	145	149	153	158	163	168	174	180	186	193	200	207	213
42	132	134	136	139	142	146	150	154	159	164	169	175	181	187	194	201	208	214
43	132	134	136	139	142	146	150	154	159	164	169	175	181	187	194	201	208	214
44	133	135	137	140	143	147	151	155	160	165	170	176	182	188	195	202	209	215
45	133	135	137	140	143	147	151	155	160	165	170	176	182	188	195	202	209	215
46	134	136	138	141	144	148	152	156	161	166	171	177	183	189	196	203	210	216
47	134	136	138	141	144	148	152	156	161	166	171	177	183	190	197	204	211	217
48	134	136	138	141	144	148	152	156	161	166	171	177	183	190	197	204	211	217
49	134	136	138	141	144	148	152	156	161	166	171	177	183	190	197	204	211	217
50	134	136	138	141	144	148	152	156	161	166	171	177	183	190	197	204	211	217
51	135	137	139	142	145	149	153	157	162	167	172	178	184	191	198	205	212	218
52	135	137	139	142	145	149	153	157	162	167	172	178	184	191	198	205	212	218
53	135	137	139	142	145	149	153	157	162	167	172	178	184	191	198	205	212	218
54	135	137	139	142	145	149	153	157	162	167	172	178	184	191	198	205	212	218
55 and up	135	137	139	142	145	149	153	158	163	168	173	178	184	191	198	205	212	219

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[4] Personal communication.

Table 6. Heights and Weights of 136,504 Women of 15 or More Years of Age (With Clothes).

Age	Graded Average Weight in Lbs. with clothes																
	Feet and Inches with shoes																
	4-8	4-9	4-10	4-11	5-0	5-1	5-2	5-3	5-4	5-5	5-6	5-7	5-8	5-9	5-10	5-11	6-0
15	101	103	105	106	107	109	112	115	118	122	126	130	134	138	142	147	152
16	102	104	106	108	109	111	114	117	120	124	128	132	136	139	143	148	153
17	103	105	107	109	111	113	116	119	122	125	129	133	137	140	144	149	154
18	104	106	108	110	112	114	117	120	123	126	130	134	138	141	145	150	155
19	105	107	109	111	113	115	118	121	124	127	131	135	139	142	146	151	155
20	106	108	110	112	114	116	119	122	125	128	132	136	140	143	147	151	156
21	107	109	111	113	115	117	120	123	126	129	133	137	141	144	148	152	156
22	107	109	111	113	115	117	120	123	126	129	133	137	141	145	149	153	157
23	108	110	112	114	116	118	121	124	127	130	134	138	142	146	150	153	157
24	109	111	113	115	117	119	121	124	127	130	134	138	142	146	150	154	158
25	109	111	113	115	117	119	121	124	128	131	135	139	143	147	151	154	158
26	110	112	114	116	118	120	122	125	128	131	135	139	143	147	151	155	159
27	110	112	114	116	118	120	122	125	129	132	136	140	144	148	152	155	159
28	111	113	115	117	119	121	123	126	130	133	137	141	145	149	153	156	160
29	111	113	115	117	119	121	123	126	130	133	137	141	145	149	153	156	160
30	112	114	116	118	120	122	124	127	131	134	138	142	146	150	154	157	161
31	113	115	117	119	121	123	125	128	132	135	139	143	147	151	154	157	161
32	113	115	117	119	121	123	125	128	132	136	140	144	148	152	155	158	162
33	114	116	118	120	122	124	126	129	133	137	141	145	149	153	156	159	162
34	115	117	119	121	123	125	127	130	134	138	142	146	150	154	157	160	163
35	115	117	119	121	123	125	127	130	134	138	142	146	150	154	157	160	163
36	116	118	120	122	124	126	128	131	135	139	143	147	151	155	158	161	164
37	116	118	120	122	124	126	129	132	136	140	144	148	152	156	159	162	165
38	117	119	121	123	125	127	130	133	137	141	145	149	153	157	160	163	166
39	118	120	122	124	126	128	131	134	138	142	146	150	154	158	161	164	167
40	119	121	123	125	127	129	132	135	138	142	146	150	154	158	161	164	167
41	120	122	124	126	128	130	133	136	139	143	147	151	155	159	162	165	168
42	120	122	124	126	128	130	133	136	139	143	147	151	155	159	162	166	169
43	121	123	125	127	129	131	134	137	140	144	148	152	156	160	163	167	170
44	122	124	126	128	130	132	135	138	141	145	149	153	157	161	164	168	171
45	122	124	126	128	130	132	135	138	141	145	149	153	157	161	164	168	171
46	123	125	127	129	131	133	136	139	142	146	150	154	158	162	165	169	172
47	123	125	127	129	131	133	136	139	142	146	151	155	159	163	166	170	173
48	124	126	128	130	132	134	137	140	143	147	152	156	160	164	167	171	174
49	124	126	128	130	132	134	137	140	143	147	152	156	161	165	168	172	175
50	125	127	129	131	133	135	138	141	144	148	152	156	161	165	169	173	176
51	125	127	129	131	133	135	138	141	144	148	152	157	162	166	170	174	177
52	125	127	129	131	133	135	138	141	144	148	152	157	162	166	170	174	177
53	125	127	129	131	133	135	138	141	144	148	152	157	162	166	170	174	177
54	125	127	129	131	133	135	138	141	144	148	153	158	163	167	171	174	177
55	125	127	129	131	133	135	138	141	144	148	153	158	163	167	171	174	177

From the elaborate original volume the following abstracts are pertinent: The data were collected "Under modern conditions. . . confined to the policies issued in the U. S. and Canada (p. 5) . . . by 43 companies (p. 6). . . from the business of the years 1885 to 1908 inclusive. . . In 1885 the companies contributing their experience had 97% of the total insurance in force in all old-line companies in the U. S. and Canada, while in 1908 they had 90% of the total insurance. It may be said, therefore, that the material used in the investigation fairly represents the business of those countries (p. 8).

"In looking over the literature on anthropometrics one is struck with the dearth of reliable statistics. . . A comparison of the figures obtained by Messrs. Quetelet, Hutchinson, Macaulay and Foster will not be made, because the statistics are few and the results of academic interest only. The first table, based on a considerable volume of statistics, which took account of the ages, was prepared by the Medical Directors Assn. in 1897, and is known as the Shepherd Table.

Shepherd, G. R.: The Relation of Build (Height and Weight) to Longevity, Medical Examiner, July, 1899, ix, 209.

"It was based on 74,162 male applicants accepted for life insurance in the United States and Canada." (p. 11.) Later, "after a careful study of the facts available, the Committee (was) of the opinion that the Table of Heights and Weights in use among the companies (did) not express the actual facts and that it (was) desirable to establish a new Standard Table of Heights and Weights based upon a larger amount of data" than Shepherd's table (p. 108). They regarded standard lives as from 15% underweight to 25% overweight. "Cases which have been treated by the companies as substandard (were) excluded. (p. 109). . . The age. . . counted from the *nearest* birthday," not the next (p. 105). "The subjects were. . . measured in their shoes (p. 22). . . It should be observed that, generally speaking, applicants for insurance are in their ordinary street costume when weighed; overcoats, however, being removed and sometimes coats. This, of course, makes a difference in the weight according to the season of the year, the weight of the clothing of a man or woman in winter being about five or six pounds more than in summer in the northern sections of the United States, with a smaller variation in the southern sections. Furthermore, the heat of the summer is apt to reduce the actual weight below that of the winter. The desire to obtain averages which did not differentiate by season or by section of country, led to the choice of January (of the odd years) and July (of the even years) policy issues. . . The table. . . must not be considered therefore as applicable to any particular season of the year or to any particular section of the country, and accordingly due allowance should be made when making comparison with other data on a less comprehensive basis." (No statement seen about average weight of clothes for each sex.)

At the present time the War Department's figures, *minimum* as well as average, may be of interest for comparison:

Table 7. War Department Figures for Heights and Weights of Men (Without Clothes and Shoes.)

Age	Height in.	Weight lbs.	
		Av.	Min.
Under 18 years	62		110
At 18	64		115
At 19	64		120
At 20	64		125
At 21 & over	64	128	120
	65	130	122
	66	132	124
	67	134	126
	68	141	129
	69	148	133
	70	155	135
	71	162	142
	72	169	149
	73	176	156

McCain, H. P., Adjutant General, War Department, U. S. A. Recruiting Circular No. 2, Washington, Nov. 1, 1916.

A formula may be used instead of a table. Barker recently has given five such formulae, one in terms of pounds, four in terms of kg.

Barker, L. F.: The Clinical Diagnosis of Internal Dis., N. Y. and London, 1916, Vol. iii, 794.

Guthrie's Formula: Wt. in lbs. = 110 + (5.5 × number of inches taller than 5 ft.)

Bernhardt's Formula: Wt. in kg. =

$$\frac{\text{Ht. in cm.} \times \text{chest circumference in cm.}}{240}$$

Broca's Formula: Wt. in kg. = Ht. in cm. minus 100

Oeder's Formula: Wt. in kg. = (so complex that omitted here)

von Noorden's Formula: Wt. in kg. = Ht. in cm. × 0.455

The results of the application of the foregoing tables and formulae to a series of 20 normal men, partly medical students and partly outpatients with insignificant complaints, are given in Table 8. In order to compare these resulting weights, they have been expressed in pounds, without clothes. In each column we have then calculated the percentage error between the theoretical weight by that particular method and the actual weight. All these errors have been added (no matter whether the theoretical normal was higher or lower than the actual weight), the sum divided by 20 (in one column by 18), and the resulting "average per cent. error" put below the column. Beneath that again has been put the number of times that the theoretical exactly *agreed* with the actual, then the number of times it was *too high,* and finally the number of times it was *too low.* The results of these computations are summarized in the following conclusions:

Table 8. Comparison of Different Methods of Calculating Normal Weight.

Age Yrs	Height without shoes		Chest circum.	Weight pounds naked						
				Actual	Theoretical					
	In.	cm	cm		Med-Act	USA	Guthrie	Bernhardt	Broca	vNoorden
23	65	165	82	113	132	130	138	125	145	165
22	64	162	85	121	127	128	132	127	137	162
34	66	167	85	127	142	132	143	131	148	167
22	67	170	83	129	138	134	148	130	154	170
22	71	180	84	129	155	162	170	139	176	180
24	67	170	87	136	140	134	148	136	154	170
25	70	178	87	137	154	155	165	142	172	178
24	68	173	86	145	144	141	154	137	161	173
27	72	183	88	148	167	169	176	148	183	183
32	69	175	91	150	155	148	159	146	165	175
28	70	178	87	151	156	155	165	142	172	178
24	67	170	89	151	140	134	148	140	154	170
22	69	175	91	153	146	148	159	146	165	175
25	68	173	91	156	145	141	154	145	161	173
24	69	175	88	158	148	148	159	142	165	175
25	69	175	94	165	149	148	159	151	165	175
30	72	183	98	166	170	169	176	164	183	183
32	72	183	90	169	172	169	176	151	183	183
34	74	188	97	179	186	--	187	168	194	188
22	76	193	97	194	180	--	198	172	205	193
Average % error:					7.3	7.3	9.5	5.5	13.1	19.7
No. of times correct:					0	1	0	2	1	0
" " " too high:					14	9	17	6	19	19
" " " " low:					6	8	3	12	0	1

I. The relative accuracy of the 6 methods (2 tables and 4 formulae) for estimating normal weight is, giving the best first:

1. Bernhardt's, with an error of about 6%.
2. U. S. Army's, with an error of about 7%.
3. Medico-Actuarial, with an error of about 7%.
4. Guthrie's, with an error of about 10%.
5. Broca's, with an error of about 13%.
6. Von Noorden's, with an error of about 20%.

II. The average weight of clothes in this small series of 20 men was eight (8) pounds (Boston in November).

III. It should be noted that the weight here discussed has been the "average" or "normal." The "ideal" weight, or that which indicates the greatest expectation of life, has been found by life insurance experts to be very different. In an individual under 35 years, for instance, the "ideal" weight is usually above the "average," and in an individual above 35 years of age below the "average."

* * *

THE IMMORAL WOMAN AS SEEN IN COURT: A PRELIMINARY REPORT.

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IT is not the purpose of this paper to discuss the magnitude and seriousness of the so-called vice problem. Numerous vice commission reports dealing with its various aspects are at hand. It was hoped, however, that a study of this sort might throw some light upon one phase of the situation, namely, the offender herself; what she is and what she needs; what her physical and mental condition is; and what main lines of treatment are indicated. More particularly was it our purpose to secure facts for orientation in regard to a certain group of women offenders passing through this court.

For the purpose of the study, a group of one hundred individuals representing "the run of the mine" in court was chosen. No other basis for selection was required than that each individual should have been arrested for an offense against chastity. An effort was made to examine each person more or less in the order in which she appeared in court.

The case records were collected during the months of January and February, 1917, at which time the Probation officers in court endeavored to secure an examination, wherever possible, of each woman offender of this type.

It is quite likely that the group selected is a representative one, and presents a fair picture of this type of offender in general. At least the situation is not overdrawn.

The following table of arrests would indicate that the worst side of the picture is not brought out; for the majority of our individuals are first offenders, not quite one-fifth being recidivists. The term "recidivist" is used to refer to those who have been arrested three or more times.

TABLE I.

Showing Frequency of Arrests among 100 Immoral Women in Court.

First offenders	56
Second offenders	25
Recidivists	19
Total	100

Eighty-one per cent. of our cases were either first or second offenders—individuals who from a purely legal and social point of view had not yet become serious problems. Likewise, the majority were young people, though none were under seventeen years, these being tried before the Juvenile Court.

TABLE II.

Showing Ages of 100 Immoral Women in Court.

Oldest age	54 yrs.
Youngest age	17 yrs.
Average age	26 yrs.
Total number under 30 yrs.	74

The average age is 26 years. The large percentage of our cases (74%) under 30 years is not at all surprising in view of the requirements for such a calling.

The frequency of alcoholism and drug addiction among immoral women is well recognized. While in this particular study no attempt was made to go seriously into this phase of the problem, to determine the relation of alcohol and drugs to the immoral conduct of these women, still a certain amount of data along these lines was secured. The following table indicates the proportion that showed use of such upon examination:

TABLE III.

Showing Proportion of 100 Immoral Women using Alcohol and Drugs.

Alcohol	34
Drugs	12
No evidence of either	54

Thirty-four per cent., or a good one-third, were in the habit of using alcohol. Twelve per cent., almost one out of every eight individuals, were drug habitués.

It is quite likely that a much larger percentage of these cases were using both alcohol and drugs than is shown here, for only those cases were recorded that gave evidence of such on examination.

The industrial inefficiency of the prostitute is a well-known fact. Their incompetence and consequent inability to support themselves by legitimate means has been offered as a most important factor underlying their delinquencies. Among this particular group of immoral women such wholesale inefficiency is not found. On the contrary, the number of individuals that seemed to be supporting themselves by legitimate means was surprising.

TABLE IV.

Showing Industrial Efficiency of 100 Immoral Women in Court.

Regularly employed	17%
Irregularly employed	33%
Odd jobs	2%
Never work	31%
Housework at home	17%

Seventeen per cent. were regularly employed, while about 50% seemed to be self-supporting. These facts are possibly better understood in connection with later tables of mental findings.

As above mentioned, the average age of the group is 26 years; all are, from a physical point of view, adults. The mental ages, however, as shown in the following table, would indicate that from the point of view of their mentality we are dealing with a much younger group of individuals, many having the mental level of children.*

TABLE V.

Showing the Mental Level of 100 Immoral Women in Court.

Between 8 and 9 yrs.	2%
Between 9 and 10 yrs.	10%
Between 10 and 11 yrs.	17%
Between 11 and 12 yrs.	20%
Subnormal (12-16 yrs.)	26%
Adult (16 yrs. +)	25%

Forty-nine per cent. of these individuals had a mental level below 12 years; 51% a mental level above 12 years.

Almost the same proportion of individuals as were found self-supporting were found to have a mental level over 12 years. Likewise, with a percentage of fifty not self-supporting, we find about the same number—49%—are under 12 years. These facts become more significant in the light of the following table:

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* In this connection it should be remembered that native intelligence reaches its complete development not far from sixteen years of age.

Table VI.

Showing the Mental Diagnosis of 100 Immoral Women in Court.

Normal	20%
Dull normal	32%
Feeble-minded	30%
Epileptic	6%
Alcoholic deterioration	2%
Drug deterioration	2%
Psychopath	7%
Psychosis	1%
	100%

Forty-eight per cent. are pathological mental types, among which feeble-mindedness ranks highest. Twenty per cent. were apparently normal, using the term "normal" in the very broadest sense, and meaning by it to include those individuals who gave evidence of good general intelligence, were stable, well balanced, and showed nothing pathological either in past history or present examination. To be sure, they all possessed traits of character that could be classed as delinquent; traits which varied greatly among the individuals themselves, and whch were present in greater proportion and frequency than is to be found in the non-criminal population.

Thirty-two per cent. were called subnormal—a class of individuals too intelligent and capable to be considered feeble-minded, and yet obviously inferior to the normally developed adult mind. This group might be better termed "The Dull Normal Group."

"A normal mind requires a healthy body to attain its highest efficiency." How necessary it is, then, to obtain a survey of the physical health of these individuals, as well as their mental condition. While feeble-mindedness cannot be cured, physical health may be restored.

Table VII.

Showing the Physical Condition of 100 Immoral Women in Court.

Good physical condition	14%
Fair physical condition	42%
Poor physical condition	36%
Bad physical condition	8%
	100%

Forty-four per cent. were in poor or bad physical condition, and that from diseases other than venereal (tuberculosis, asthma, heart disease, Bright's disease, rheumatism, pelvic tumors, drugs, alcohol, etc.), and were urgently in need of medical treatment.

The relationship which the physical condition of these individuals bore to their industrial efficiency is shown in the following table:

Table VIII.

Showing Relationship of Physical Condition to Industrial Efficiency of 100 Immoral Women in Court.

Physical Condition.

	Good Physical Condition	Fair Physical Condition	Poor Physical Condition	Bad Physical Condition	Totals
Regularly employed	1	12	3	1	17
Irregularly employed	5	14	12	2	33
Odd jobs	0	0	1	1	2
At home	4	5	8	0	17
Do not work	4	11	12	4	31
Totals	14	42	36	8	100

Thirty-two per cent. were in good or fair physical condition, and were self-supporting.

Eighteen per cent. were in poor or bad physical condition, and were self-supporting.

Twenty-four per cent. were in good or fair physical condition, and were not self-supporting.

Twenty-six per cent. were in poor or bad physical condition, and were not self-supporting.

Syphilis and gonorrhea were not included in the above list of diseases causing impaired condition of health referred to, for the reason that it seemed best, in view of their grave social significance, to discuss them separately.

Table IX.

Showing Frequency of Venereal Disease among 100 Immoral Women in Court.

Syphilis	39
Gonorrhea	32
Combined	10
Total No. with Venereal Disease	61

Among these one hundred individuals there were thirty-nine cases of syphilis, and thirty-two cases of gonorrhea. In ten cases the condition was combined. In all, sixty-one individuals were suffering from venereal disease (this is a conservative figure, as only positive bloods and smears were counted). These two conditions rank among the greatest of all social evils, and that principally because their nature is grasped only by a few. Medical men recognize the seriousness of the situation, but the full importance of a general education of the public along these lines is not appreciated.

Syphilis and gonorrhea form a combination possibly as productive of evil as any scourge that has ever afflicted mankind. These two conditions are striking at the very sources of life, and deteriorating the human race. The terrible mortality among the new-born, caused by hereditary syphilis, the high percentage of miscarriages associated with this condition, the fact that this disease ranks first in its ability to cause destructive diseases of the nervous system, the fact that in its wake follow idiocy, epilepsy, feeble-mindedness, insanity, locomotor ataxia and such, make the early recogntion and treatment of syphilis a matter of the gravest importance to the general public.

The seriousness of gonorrhea, especially to women, and the growing army infected, is a source of much alarm to serious-minded students of the subject. Few diseases afflict women that are fraught with more permanent harm. It exists in every degree of severity. In some it produces only the very mildest symptoms, in others the fulminating signs are present—acute inflammation of the tubes and ovaries, abscesses and peritonitis. Between these lie all degree of pelvic ills, acute and chronic. This condition is the most prolific source of extra-uterine pregnancies, spontaneous abortions and sterility. It is a large and important factor in causing blindness and many other serious conditions.

In short, we have in these two conditions diseases of such grave significance to society in general, and the individual in particular, that, providing they exist in such frequency as above indicated (61%) among this group of offenders, a serious duty becomes imposed upon those who would protect the general public, while seeking to do the best possible for the individual. And this duty consists in having every offender who through known illicit sexual relations has exposed himself or herself to the danger of infection with syphilis and gonorrhea examined, to determine whether such a condition exists. And this not only in the light of protecting society from a serious menace to public health, but as a matter of common humane interest in the individual. It is the common belief that these conditions are frequent only among the common prostitute, and that a carefully gotten social history will reveal those who should have an examination made for venereal diseases, that the young individual, the first offender, who has not been promiscuous, is liable to be free from such.

The following table is significant, particularly in view of the fact that the majority were first offenders and were young individuals.

TABLE X.

Showing Relationship of Venereal Disease to Frequency of Offense among 100 Immoral Women in Court.

	First Offenders 56	Second Offenders 25	Recidivists 19
Syphilis	24	8	7
Gonorrhea	21	9	2
Combined	8	1	1
Total number with venereal disease	37	16	10

Fifty-six were first offenders, 25 were second offenders, and 19 were recidivists. Of these 56 first offenders, 66%, or two-thirds, were suffering from either syphilis or gonorrhea. The fact that only 42% of the recidivists showed positive laboratory findings is possibly to be explained in the light of the well-known interference of alcohol with the Wassermann reaction (recent alcoholism having been found common among the recidivists); also some were undoubtedly undergoing treatment at the time. Finally, it must be borne in mind that the common prostitute, as time goes on, becomes more adept in protecting herself from venereal disease.

There is only one safe and sane method of finding out whether an individual needs an examination for venereal disease, and that is to determine exposure to such through having had illicit sexual relations.

Inasmuch as behavior finds its fullest explanation in the mental life of an individual, we have been led to expect a close correlation between abnormal mental conditions and misconduct. Such is the case in this group studied. In fact, so marked is the correlation that one can practically say that the greatest distinction between the first offender and the recidivist is a psychological one, and consists of a difference in mentality of the individuals themselves.

TABLE XI.

Showing Relation of Mentality to Frequency of Offense among 100 Immoral Women in Court.

	First Offenders	Second Offenders	Recidivists	Totals
Normal	16	3	1	20
Dull normal	19	11	2	32
Feeble-minded	11	8	11	30
Psychopath	4	0	3	7
Epilepsy	3	2	1	6
Alcoholic deterioration	1	0	1	2
Drug deterioration	1	1	0	2
Psychosis	1	0	0	1
Totals	56	25	19	100

Thirty-nine and three-tenths per cent. of first offenders, 47.2% of second offenders, and 84.2% of recidivists were suffering from serious mental handicaps. As it can be predicted that on a hot summer day the majority of pedestrians will be found on the shady side of the street, so can it be expected that a certain group of offenders, all things being equal, will find themselves unable to measure up to the social standards of the complex community life of today, and will appear again and again in court.

Preventive criminology would consist in determining beforehand the members of this group, and marking them for special supervision, such supervision as would take into consideration their peculiar needs and their special adaptabilities, if any success in adjustment is to be attained.

Having drawn attention to the physical condition, the mental condition, the industrial efficiency, the frequency of venereal diseases, alcohol and drugs among these women, it might be worth while to consider the constructive aspect of the situation; for, after all, it is the question of human salvage that we are most interested in here, and not the particular kind of punishment needed.

TABLE XII.

Showing Related Mental and Physical Condition among 100 Immoral Women in Court.

MENTAL CONDITION	PHYSICAL CONDITION			
	GOOD	FAIR	POOR	BAD
Normal	3	8	6	3
Dull normal	5	11	15	1
Feeble-minded	2	18	8	2
Epilepsy	1	3	2	0
Alcoholic deterioration	0	0	2	0
Drug deterioration	0	0	0	2
Psychopath	3	1	3	0
Psychosis	0	1	0	0
Total	14	42	36	8

Twenty-seven per cent. possessed good or fair mentality, and were in good or fair physical condition.

Twenty-five per cent. possessed good or fair mentality, and were in poor or bad physical condition.

Twenty-nine per cent. were in poor or bad mental condition, and in good or fair physical condition.

Nineteen per cent. were in poor or bad mental condition, and in poor or bad physical condition.

In short, a certain number of our cases (27%) were in such physical and mental condition as would enable them to return to the community.

Twenty-five per cent. were, from a mental point of view, capable of adjustment under intelligent supervision, but were physically in need of medical treatment.

Twenty-nine per cent. were suffering from such mental handicaps as to render it unlikely that they would conduct themselves normally unless under very careful supervision—supervision suited to the special needs of their case.

Nineteen per cent. were in such poor or bad mental condition, and such poor or bad physical condition, as to render outside adjustment risky, but were in need of prolonged treatment under detention.

SUMMARY.

In this study an attempt was made to secure for examination a group of 100 women offenders in court, who might fairly well represent the so-called offender against chastity.

The group selected contained 56 first offenders, 25 second offenders and 19 recidivists. All told, 81% were either first or second offenders.

The average age was 26 years.

Alcoholism was found in 34 persons, and drug addiction in 12.

Forty-nine per cent. had a mental level below 12 years; 51% were above 12 years.

Forty-eight per cent. were suffering from serious mental handicaps, among which feeblemindedness ranked highest (30%).

Forty-four per cent. were in poor or bad physical condition from diseases other than venereal, and were in need of medical treatment.

More than three times as many persons who were regularly employed were found in good or fair physical condition as were found in poor or bad physical condition. The restoration of an individual's health might well be one of the most effective means for securing successful probation in her case; for the woman in bad health stood about one-third the chance of the woman in good health for regular employment.

Syphilis and gonorrhea were found present in 61% of these cases. There is no satisfactory method of selecting the particular individuals among known immoral women in court who should and who should not have an examination for venereal disease, for the first offender is just as liable to be infected as the common prostitute. In these cases 66% of the first offenders were suffering from syphilis or gonorrhea.

There is a very high correlation between the frequency of offense and the mental condition of these individuals. Thirty-nine and three tenths per cent. of first offenders, 47.2% of second offenders, and 84.2% of recidivists were suffering from serious mental handicaps. Preventive Criminology looks towards the ascertainment of the mental condition of such offenders in advance of their treatment.

Taking the group as a whole, about 27% were in such good physical and mental condition as would enable them, under probation, to return to the community.

Twenty-five per cent. were, from a mental point of view, capable of adjusting themselves under well-planned probationary supervision, but were physically in need of urgent medical treatment.

Twenty-nine per cent. were suffering from such mental handicaps as to render it unlikely that they would conduct themselves normally in the community unless under very special probationary supervision—supervision suited to the peculiar needs of each case.

Nineteen per cent. were in such poor or bad mental condition, and such poor or bad physical condition as to render any attempt at outside adjustment inadvisable, and were in need of prolonged treatment under detention.

THE DIFFERENTIATION OF PSYCHOTIC FROM NEUROTIC CONDITIONS.*

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In Tuke's "Dictionary of Psychological Medicine," published in 1892, are found these definitions:

"Psychosis,—a mental affection.
Psychoneurosis,—a mental disease."

To be sure, these definitions are many years old, and since then the situation has been somewhat clarified, but to many practitioners and laymen the clinical differentiation of psychotic from neurotic conditions remains about as nebulous as the above-quoted definitions.

A part of this vagueness of understanding has been due to the relationship between psychoses and insanity, but this difficulty is resolved by recognizing that insanity is a social condition—a question of conduct in a given environment, and a question primarily of legal rather than medical definition. It need hardly be stated that many people are judged insane who have no psychoses, while many psychotic individuals are never judged insane. Many a wild hysteric has been committed as insane, and rightly, because of his or her conduct, but not because of suffering from a psychosis; and many a senile dement has been lovingly cared for at home as a sweet old grandmother. Clinically, we are familiar with the diagnosis of predementia precox and paresis sine paresi in individuals whose conduct does not at the time warrant commitment as insane.

The matter of insanity, then, must be considered apart from that of the existence of a psychosis; for insanity, as has often been stated in court, can be described but cannot be defined. In fact, Lord Justice Blackburn is quoted by Church and Peterson as saying regarding insanity: "I have read every definition which I could meet with and never was satisfied with one of them, and have endeavored in vain to make one satisfactory to myself. I verily believe that it is not in human power to do so."

The differentiation of a psychosis from a neurosis is, however, a matter of prime importance and worthy of discussion. To the layman a vast gulf divides the psychotic from the "only nervous." He will go to the psychopathic hospital readily, but cannot be dragged to a state institution. He will go to a nervine hospital, but hesitates even to pass by a sanitarium for mental cases. His sick neighbors are perhaps at times insane, but his own relatives are only "very nervous." He will consult a neurologist but hesitates to call on a psychiatrist. The family practitioner prefers to consider a case "nervous," whereas the psychiatrist may often remind one of the old Quaker who is famed for saying, "Every one is queer but me and thee, and sometimes thee is a little queer."

Surely some clinical standard should be found that will help clarify this situation.

In alcoholic intoxication the law has recognized the distinction between delirium tremens and alcoholic hallucinoses, and provides for the exclusion of the former and the admission of the latter to the Boston Psychopathic Hospital.

Kraepelin has given a table for differentiating these two conditions, in which ten factors are considered, as follows: Lucidity and orientation are absent in delirium tremens, present in alcoholic hallucinoses. The sensorium is clouded in the former, clear in the latter. Hallucinations are largely of sight in tremens and of hearing in alcoholic hallucinoses. Suggestibility is increased in the former, normal in the latter. Restlessness is increased in tremens, absent in the other condition. Consistent delusions are absent in tremens and present in alcoholic hallucinoses. Coarse tremor is present in the first condition, absent in the second. The course of the disease is rapid in tremens and slow in alcoholic hallucinoses, and the termination of the former is by crisis and of the latter by lysis.

In other words, as a general thing, in delirium tremens there is evidence of a toxic interference with the receipt of stimuli and an increased reaction through the vegetative nervous system to emotional stimuli, whereas in alcoholic hallucinoses the evidence of interference with the receipt of stimuli is seemingly lacking, and instead of an increased reaction through the vegetative nervous system to emotional stimuli there is often a striking lack of such reaction.

A similar distinction can be seen in cases where another toxic agent is at work, namely, syphilis. In pre-paretic cases, the symptoms suggest neurasthenia and exhibit an increased reaction through the vegetative nervous system to emotional stimuli, whereas in full-blown paresis there is again a striking lack of such reaction.

In addition to alcohol and syphilis, a third agent that reacts upon the body with symptoms varying through the whole gamut of neurotic and psychotic conditions is one upon which much interest and investigation is now focused, namely, shell shock.

Here, then, are found a chemical agency, a microbic agency, and a purely physical agency, each of which produces in man symptoms varying from mild neuroses to severe psychoses.

Study of this new agency, namely, shell shock, promises new and invaluable knowledge in the fields of physiology, and especially psychiatry.

In a recent article on "The Psychology of Fear," Sir Robert Armstrong-Jones has written most illuminatingly upon the subject. At the risk of boring those of you who have read his article, a short abstract of some of the knowledge and theories that he has presented will be given. He states "that in every emotion there is a cognitive and active and an affective experience, and that the emotions are the expression of—or, according to some, are themselves expressed in—characteristic instinctive acts." Fear, which in its various forms is an universal and fundamental human experience, is expressed physiologically in varying degrees by inhibition of all visceral movements, contraction of the blood-vessels, lowering of surface temperature, sweating, cessation of the flow of saliva, dilatation of the pupils, erection of the hair, increased cardiac and respiratory activity, and tremblings and twitchings of muscles, especially of the face. In addition to these direct emotional reactions, through the vegetative nervous system, there is an indirect action through stimulation of the adrenal glands that results in an increased sugar excretion from the liver into the blood for the use of the muscles, a diversion of blood from the abdominal viscera into the heart, lungs, and central nervous system, an increased coagulability of the blood, and an increased blood-pressure. This adrenal secretion augments the effect of the emotions and also helps to prolong and sustain it, and may be likened crudely to the ignition in an automobile, which at first is accomplished by the battery, and then prolonged by the action of the magneto.

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* Read at the meeting of the Boston Society of Psychiatry and Neurology, October 18, 1917.

Such, according to our present knowledge of physiology, is the mechanism of the relationship between emotional activity and physical reflex action.

In shell shock it has been suggested that, owing to the intensity of the emotional stimuli, a dissociation of the cerebrospinal and the vegetative nervous systems takes place, resulting in uncontrolled and unregulated action of organs innervated by the autonomic system.

The following thesis is advanced for consideration. In the neuroses, neurasthenia, psychasthenia, hysteria, etc., there is a hyper-reactivity through the vegetative nervous system to emotional stimuli, whereas in the psychoses there is a hypo-reactivity through this system to such stimuli.

The following observations and cases are quoted to illustrate this thesis:

In the syphilo-psychoses (the mental disease groups which have been suggested by Dr. Southard will be considered) there are recognized the syphilitic neurasthenics, the pre-paretics, the cases of paresis sine paresi, and the paretics.

Case A. A case of neurasthenic syphilis, who complained of being "all in." "Could not think." Did not want to go home to his family, too nervous to stay at his office. Admitted luetic infection several years previous and had had thorough treatment under skilled hands. Physical examination showed increased reflexes, healed ulcers over the shins, and a general hypersensitiveness to emotional stimulation. Appetite and sleep poor. Bowels sluggish. With rest, baths, and psychotherapy he gained in weight and poise, and has been able to conduct his business for several years with marked success.

Case B came to the Out-Patient Department of the Psychopathic Hospital because when he got out of bed he could not put one foot readily into his slipper. His speech was slightly thickened and his pupils sluggish and irregular. He was referred to the hospital for observation, where all laboratory tests were found positive for paresis.

Case C complained of inability to concentrate his mind. Did not feel well. Worried over an inability to pronounce certain words clearly. Was restless, anxious about every physical symptom. Physical examination showed almost absent knee jerks, irregular pupils that usually failed to react to light. Laboratory tests were positive for general paresis. With intravenous salvarsan, baths, and psychotherapy, he improved in physical condition and seemingly became able to enunciate more clearly. He lost many of his worries and returned home in much better shape. When last seen he was not commitable, and could scarcely be classed as psychotic, although from the laboratory point of view a clear case of paresis.

A typical cases of paresis need not be cited, as the changed affectivity is recognized as an early symptom almost always present. The common immunity of the paretic to unpleasant aftereffects from lumbar puncture is recognized, and when a case has nausea, headache, or dizziness after a lumbar puncture a positive Wassermann reaction is not expected.

In the hypo-phrenoses—the feeble-minded—keenness of reaction to emotional stimuli is not expected. In case of fire at a feeble-minded school it has been remarked that the patients are less liable to be panic-stricken than the nurses and attendants.

Case D. A young man seen in the Out-Patient Department of the Psychopathic Hospital. He was so cheerful and well nourished and emotionally placid, in spite of a series of major operations of doing and undoing a gastro-enterostomy, repairing a hernia, and breaking up abdominal adhesions, performed at the Massachusetts General, the Carney, and the Brigham Hospitals, that he was given a Binet test and proved to be but nine years of age mentally.

Case E. A high-grade moron of gluttonous habits, who insists on constantly overeating. Often after excessive eating, he will easily regurgitate part of his meal with as little discomfort as an overturned bottle.

Among the epileptoses a change in affectivity is noted that may gradually develop and remain present, or may precede or follow individual seizures.

Case F. A woman, eighty years of age, who since childhood has had epileptic attacks varying in frequency from none to fifteen a week. Within the past twelve years she has gradually developed a psychotic condition, and now shows almost complete lack of memory, and at times confusion and irritability. Her mother, herself, her daughter and her granddaughter have suffered from epilepsy. Now that her psychotic condition has developed she is placid, and cheerful most of the time, going driving daily, and has shown practically no physical enfeeblement within the past five years.

Among the pharmaco-psychoses—the alcoholic and drug cases—the distinction between delirium tremens and alcoholic hallucinoses has already been considered.

Among the encephalo-psychoses—the coarse brain disease cases—are to be found cases that in their early stages are classed as neurasthenics that later show marked changes in affectivity.

The somato-psychoses are seldom seen in their initial stages by psychiatrists. Experienced general practitioners, however, recognize in typhoids, cardiac, pneumonic, and puerperal cases, a change in affectivity, a keen alertness, a disregard of normal physical weakness and disabling symptoms that puts them on their guard to prevent sudden elopement or tragedy. Osler states in his "Practice of Medicine" that acute mania occurs as a complication of various somatic conditions, but gives no hint to assist a practitioner in recognizing the onset of such a condition.

Case G. A case of marked cardiac decompensation. If unwatched, he would spring out of bed and run out of his room and show evidence of strength and agility absolutely incompatible with his physical condition.

Among the gerio-psychoses are again to be found cases varying in symptoms from neurasthenias to frank psychoses. Affectivity changes are an early symptom of psychotic change, and the virility and endurance of senile dements often far surpasses that of non-psychotic elders.

Case H. A woman of nearly eighty years, blind, deaf, toothless, and partly crippled with arthritis, has often required two or three nurses to hold her when her nails have to be manicured.

Case I. A man of seventy-five, who had not eaten of his own volition for months, requires two strong male nurses and a doctor when he is tube fed.

Among the schizo-phrenoses—the dementia precox cases—change in affectivity is an early and almost constant symptom. In fact, it may be suggested that "the shut-in personality" may possibly better be thought of as a "shut-off personality"—an individual in whom the connection between emotional stimuli and normal reaction through the vegetative nervous system is irregular and labile, predisposed to rupture under environmental or physical strain.

Case J. A woman of thirty-five, a dementia precox case of several years' standing, who required the removal of several old teeth. She was seized, heavily etherized, and had four teeth extracted. When seen a quarter of an hour later, she was sitting on the edge of her bed, asking to go out into the garden, and showing no nausea or evidence of shock from her uncomfortable experience.

The cyclo-thymoses—the manic-depressive cases—also show types varying in symptoms from mild neurasthenic-like depressions to frank psychoses.

These cases imperatively call for an early diagnosis, for from among these cases come the sudden suicides and maniacal murders. When the hard-working business man or military officer, with heavy cares and responsibilities, ceases to be fatigued by excessive labor, craves more work, less sleep, and is indifferent to nourishment, danger should be scented and relief from emotional strain secured.

Among the frankly maniacal cases, excessive motor activity, without apparent fatigue or need of sleep, is often marked. Exposure of the person to cold and wet seldom, if ever, results in colds or reflex congestion of the nasal mucous membranes.

Case K. A woman of sixty, who had usually suffered from frequent colds and so-called "hay fever," upon the development of a prolonged agitated depression, ceased to have any signs or symptoms of such vasomotor disturbance. She also failed to show any nausea or evidence of shock after being heavily etherized.

Case L. An elderly woman who had suffered for years from asthmatic attacks ceased abruptly to have these attacks subsequent to the onset of a long depression.

Among the psychoneuroses there is universally recognized a relationship between emotional disturbances and the physical symptoms that, to a greater or less degree, incapacitate them for effective life and happiness. In the neurasthenias these symptoms seemingly represent excessive reactions through the vegetative nervous system in the field innervated thereby—the digestive system, the urinary organs, the genital organs, the respiratory apparatus, the cardio-vascular system, etc.; while in hysterics and shell shock cases there is seemingly an overflow of reflex stimulation that, in addition, inhibits various muscular activities usually controlled through the cerebrospinal system.

The scope of this paper does not permit of a discussion of the etiology of the psychoneuroses. That the emotions play an important part in these conditions is generally admitted. That the emotions react physiologically through the vegetatative nervous system is also admitted. That recognition by a patient of this reaction through the vegetative nervous system gives rise to secondary emotions, and that these secondary emotions start a secondary reaction, and so on, with the formation of a vicious circle that becomes more and more complex the longer it spins, is also recognized.

Whether the genesis of the emotional disturbance is due to intra-uterine or extra-uterine sex trauma, to buried complexes, or due to congenital somatic deficiencies; whether the type or intensity of the stimulus, or the congenital or acquired weakness of the patient is the determining etiological factor—all this is aside from the scope of this paper.

Among the psycho-pathoses—the psychopathic individuals—there may be assumed to be a lability of connection between emotional activity and the vegetative nervous system that in the genius enables him to surmount difficulties with exceptional success, and disregard the distractions and environmental inhibitions of more common individuals—a lability which in another member of the same family, with failure, predisposes to mental disease.

CONCLUSIONS.

No attempt has been made to define insanity, which may properly be considered capable of description, but not of definition.

No attempt has been made to consider the etiology of various types of psychoses.

The suggestion is made that clarity of diagnosis will be furthered and consequently great help rendered in prognosis and treatment if a clear line of demarcation can be drawn between the psychoses and the neuroses; that cases of whatever etiology—alcoholic, syphilitic, determined or undetermined—be considered neuroses so long as they show hyperactivity of reaction through the vegetative nervous system to emotional stimuli, but that they be considered psychoses when there is found to exist evidence of hypo-activity of reaction through the vegetative nervous system to adequate emotional stimuli.

Being contribution of the Massachusetts Commission on Mental Diseases No. 202.1917.22. The previous contribution was No. 201.1917.21 by Dr. E. E. Southard, entitled "On the Focality of Microscopic Brain Lesions Found in Dementia Precox," appearing in the Transactions of the Association of American Physicians, 1917.

THE UROBILIN CONTENT OF THE FECES AS A MEASURE OF RATE OF BLOOD DESTRUCTION.

BY FRANCIS H. MCCRUDDEN, M.D., BOSTON.

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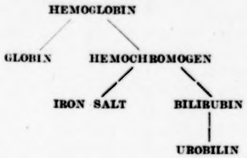
DURING the past three years the spleen has been removed as a therapeutic measure in such cases of pernicious anemia as show a high urobilin excretion, and there is a considerable literature on the subject.[1] But this literature deals largely with the practical therapeutic value of the operation and only slightly with the significance of the high urobilin. Charting red count and urobilin excretion in parallel, as I have done in the present paper, brings out graphically the relationship between high urobilin excretion and rapid hemolysis.

Hemoglobin, like all other compounds of the body, undergoes catabolism and anabolism; old hemoglobin is being continuously broken down and new hemoglobin built up. In order to preserve the normal red count at 5,000,000, and to maintain the hemoglobin at 100%, hemoglobin and red cells must be built up at the same rate as they are destroyed. If the rate of blood destruction is greater than the rate of formation, anemia will ensue. All anemias are due either to (1) a *decreased rate of blood formation,* or (2) an *increased rate of blood destruction.*

The steps in hemoglobin anabolism are not known, but the steps in the catabolic process may be schematized as follows:



The first products of hemoglobin destruction are globin and hemochromogen. The hemochromogen breaks down and gives an iron salt and bilirubin. The iron salt is retained by the liver. The bilirubin appears in the bile, and in the intestine it is quickly reduced to urobilin. Urobilin is, then, an end-product of hemoglobin catabolism, and the amount formed is proportional to the amount of hemoglobin destroyed.

In any case of pernicious anemia it is important to determine whether the condition is the result of decreased blood formation or of increased blood destruction.[*] Since the amount of urobilin formed is proportional to the amount of hemoglobin destroyed, a determination of the amount of urobilin formed would give us this information. But some of the urobilin in the bile becomes chemically changed, and some of it becomes reabsorbed, so that we cannot calculate the amount of hemoglobin destroyed from the urobilin content of the feces.[†]

We can, however, compare the urobilin in the feces in any case with the normal and get figures which are of sufficient accuracy for clinical purposes.[‡]

The observations recorded here were made on two women with pernicious anemia—Mrs. N. and Mrs. O.—who were treated by all the usual methods, including transfusion and splenectomy, and who showed remissions and relapses. The urobilin was determined by the method of Wilbur and Addis.[7]

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[*] It is in the latter type only that splenectomy is indicated. The operation was recommended and carried out at about the same time by Eppinger,[2] by Decastello,[3] and by Klemperer and Hirschfeld.[4] Eppinger was led to do it because of the observation that splenectomy lowers the urobilin excretion; Decastello because of the clinical improvement following the operation in cases of Banti's disease and hemolytic jaundice; and Klemperer and Hirschfeld because of the polycythemia observed following splenectomy for certain conditions.

[†] In cases where a biliary fistula has made it possible to collect all the bile, the normal rate of blood destruction has been determined from the amount of bilirubin formed.[5] In one such case, for example, 500 to 1100 cc. of bile per day, containing an average of 0.5 grams bilirubin was found, an amount which corresponds to 0.5 grams hemochromogen, 12.5 grams hemoglobin or 90 grams blood. (Blood contains 14% hemoglobin, and hemoglobin contains 4% hemochromogen.) This would indicate a destruction of about 2% per day of the total blood.

[‡] Other factors besides blood destruction influence urobilin excretion.[6]

The charts are nearly self-explanatory. Abscissae indicate time; ordinates indicate amount of urobilin and number of red cells. Individual red cell counts are recorded as crosses, urobilin estimations as circles. The cross-hatched areas show the normal urobilin for comparison. The broken lines show average urobilin excretion over the period covered by the line.

Charts and tables, 1, 2, and 3—periods of remission—show a rising blood count and a normal urobilin output. The low urobilin output indicates a low rate of blood destruction. The rise in the red count shows that formation of red cells and hemoglobin was faster than destruction.

Charts and tables 4 and 5 show the high urobilin output at times when the red count was falling. At these periods blood destruction was very rapid. The falling red count shows that destruction of red cells and hemoglobin was faster than formation.

Charts 6 and 7 show changes in the rate of blood destruction during the period of observation. In both cases the red count was at first falling; later, rising. Correspondingly, the average urobilin excretion was at first high and, later, lower.

TABLE I. PATIENT N.

UROBILIN EXCRETION LOW; RED COUNT RISING.

DATE	TIME OF STOOLS	RED COUNT	UROBILIN
June 26 ...	—	2,400,000	—
June 27 ...	—	—	—
June 28 ...	—	—	—
June 29 ...	—	—	—
June 30 ...	—	—	—
July 1	—	—	—
July 2-3 ...	12.45 A.M.	—	4,000
July 3-4 ...	3.00 P.M.	—	6,000
July 4-5 ...	9.05 A.M.	2,417,000	12,000
July 5-6 ..	11.10 P.M. 4.15 A.M.	—	8,000
July 6-7 ...	6.25 P.M.	—	1,400
July 7-8 ...	none	—	—
July 8-9 ...	6.45 P.M. 9.10 P.M.	—	12,000
July 9	—	—	—
July 10	—	—	—
July 11	—	—	—
July 12	—	2,517,000	—

Average urobilin 7133

TABLE II. PATIENT N.

UROBILIN EXCRETION LOW; RED COUNT RISING.

DATE	TIME OF STOOLS	RED COUNT	UROBILIN
April 8-9 ..	10.05 A.M.	1,800,000	3,000
April 9-10 .	10.15 A.M.	—	12,000
April 10-11.	10.10 A.M.	—	1,600
April 11-12.	6.45 P.M.	—	9,000
April 12-13.	11.45 P.M.	2,000,000	10,000

Average urobilin 7,100

TABLE III. PATIENT O.

UROBILIN EXCRETION LOW; RED COUNT RISING.

DATE	TIME OF STOOLS	RED COUNT	UROBILIN
Mar. 1	—	1,980,000	—
Mar. 2	—	—	—
Mar. 3	—	—	—
Mar. 4-5 ..	7.15 A.M.	—	8,000
Mar. 5-6 ..	4.00 A.M.	—	3,600
Mar. 6-7 ..	2.30 A.M.	—	7,200
Mar. 7-8 ..	2.30 A.M.	—	800
Mar. 8-9 ..	no stool	—	—
Mar. 9-10 .	3.45 P.M.	3,120,000	10,000
Mar. 10-11.	7.00 A.M.		
Mar. 11-12.	1.10 A.M.	—	8,000

Average urobilin 6,267

TABLE IV. PATIENT N.

UROBILIN EXCRETION HIGH; RED COUNT FALLING.

DATE	TIME OF STOOLS	RED COUNT	UROBILIN
June 9-10..	4.15 P.M.	1,400,000	14,000
June 10-11.	3.20 P.M.	—	—
	9.45 A.M.	—	20,000
June 11-12.	—	—	—
June 12-13.	12.00 P.M.	—	32,000
June 13-14.	—	—	—
June 14-15.	6.10 A.M.	—	14,000
June 15-16.	—	—	—
June 16-17.	7.00 A.M.	—	16,000
June 17-18.	1.15 P.M.	1,270,000	16,000

Average urobilin 18,666

TABLE V. PATIENT N.

UROBILIN EXCRETION HIGH; RED COUNT FALLING.

DATE	TIME OF STOOLS	RED COUNT	UROBILIN
Jan. 25-26	10.45 A.M. 2.20 P.M.	2,490,000	19,200
Jan. 26-27..	8.10 P.M.	—	24,600
Jan. 27-28..	none	—	—
Jan. 28-29.	9.20 A.M. 11.50 A.M.	—	44,800
Jan. 29-30..	1.30 P.M.	—	16,000
Jan. 30-31..	5.10 P.M.	—	32,000
Jan. 31-1.. Feb. 1-2...	not saved	2,200,000	—
Feb. 2-3...	6.30 A.M. 9.50 A.M.	—	22,400

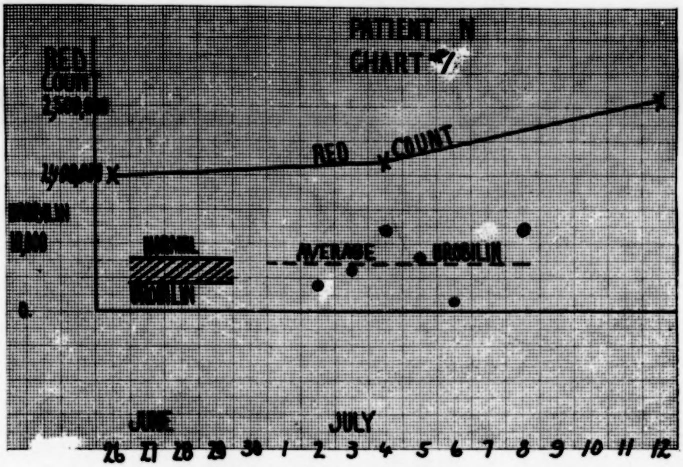
Average urobilin 26,400

TABLE VI. PATIENT O.

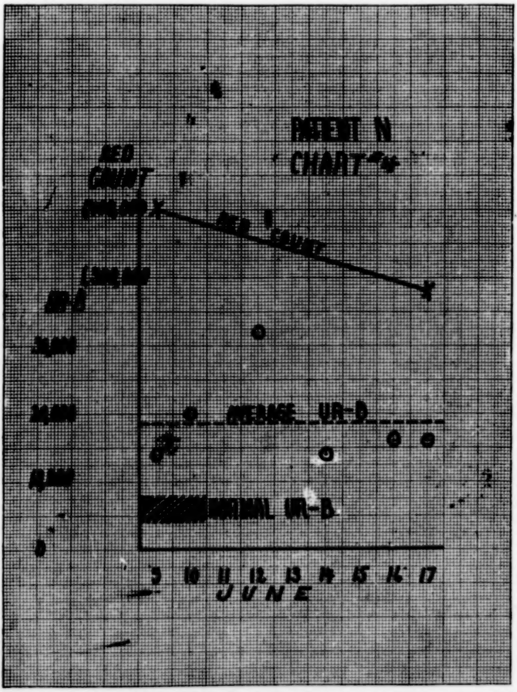
UROBILIN EXCRETION AT FIRST HIGH, LATER LOWER; RED COUNT AT FIRST FALLING, LATER RISING.

DATE	TIME OF STOOLS	RED COUNT	UROBILIN
Jan. 18.....	—	2,520,000	—
Jan. 19.....	—	—	—
Jan. 20.....	—	—	—
Jan. 21.....	—	—	—
Jan. 22.....	—	—	—
Jan. 23.....	—	—	—
Jan. 24-25..	9.30 A.M.	—	51,200
Jan. 25-26..	6.15 P.M.	—	57,600
Jan. 26-27..	5.00 P.M.	1,708,000	25,600
Jan. 27-28..	9.50 P.M.	—	11,840
Jan. 28-29..	7.30 P.M.	—	28,800
Jan. 29-30..	10.30 A.M.	—	30,080
Jan. 30.....	—	—	—
Jan. 31.....	—	—	—
Feb. 1......	—	2,000,000	—

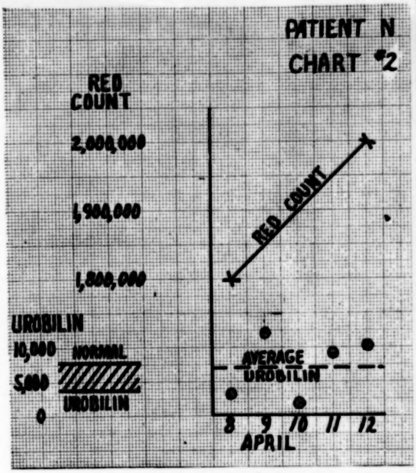
Average urobilin 34,187



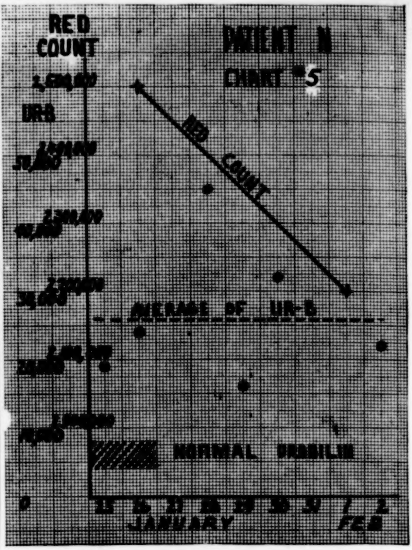
Urobilin excretion low; red count rising.



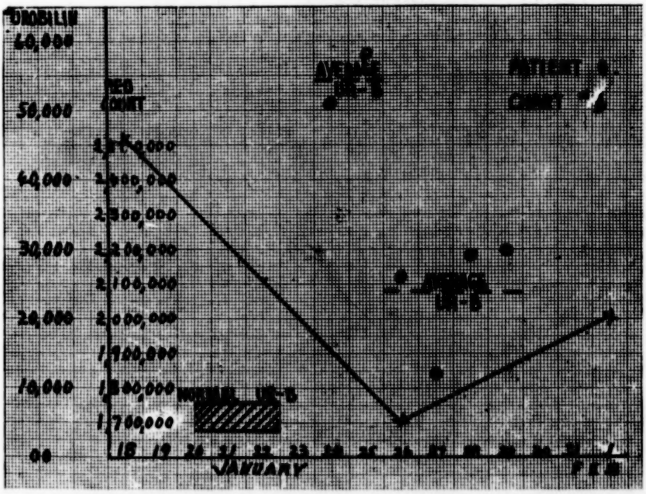
Urobilin excretion high; red count falling.



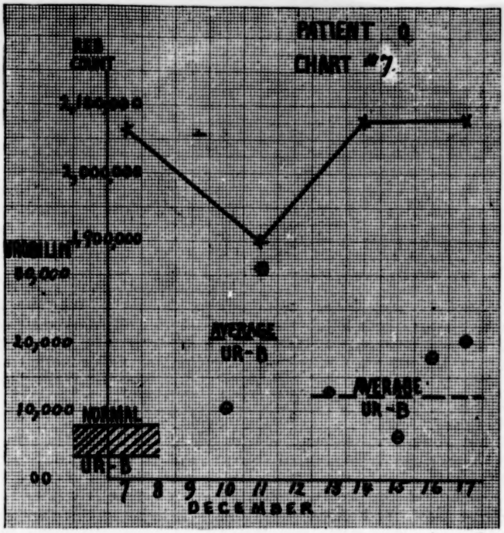
Urobilin excretion low; red count rising.



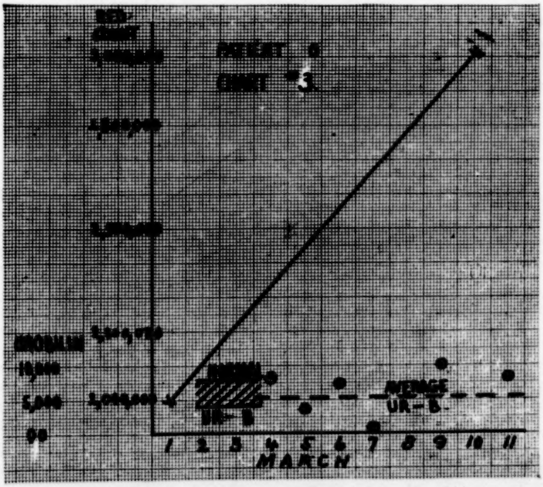
Urobilin excretion high; red count falling.



Urobilin excretion at first high, later lower; red count at first falling, later rising.



Urobilin excretion at first high, later lower; red count at first falling, later rising.



Urobilin excretion low; red count rising.

TABLE VII. PATIENT O.

UROBILIN EXCRETION AT FIRST HIGH, LATER LOWER; RED COUNT AT FIRST FALLING, LATER RISING.

Date	Time of Stools	Red Count	Urobilin
Dec. 7......	—	2,064,000	—
Dec. 8......	—	—	—
Dec. 9......	—	—	—
Dec. 10-11..	3.45 P.M.	—	10,240
Dec. 11-12..	5.45 A.M.	1,912,000	31,160
Dec. 12-13..	none	—	—
Dec. 13-14..	6.45 A.M.	—	12,800
Dec. 14-15..	none	2,080,000	—
Dec. 15-16..	4.30 P.M.	—	6,400
Dec. 16-17..	4.30 P.M.	—	17,920
Dec. 17-18..	4.30 P.M.	2,080,000	20,480
Average urobilin			16,500

It is clear from the charts how much more information regarding the hemoglobin metabolism determination of the urobilin excretion gives than blood examination. A red blood count or hemoglobin determination shows the condition of the blood only at the time of observation, but it does not show the cause of the anemia, nor does it show whether the patient is improving or retrograding. A urobilin estimation, on the other hand, shows whether the anemia is due to decreased formation or to increased destruction of the blood cells; and it shows, in addition, whether, and to what extent, the condition of the patient is improving or retrograding. The one is a "snapshot" of the status at any one time; the other is a "moving picture" showing the direction in which the disease is going.

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PULMONARY PUZZLES.[*]

By JOHN B. HAWES, 2D, M.D., BOSTON.

I HAVE used this title, "Pulmonary Puzzles," to describe a group of cases that has been very frequent during the past year and that has been a source of great difficulty to me and to other physicians in Massachusetts, not only in diagnosis but also in treatment and disposal. There is an old play entitled "The Importance of Being Ernest." I might well paraphrase this and use as my text in this article "The Importance of Being Right," in solving these pulmonary puzzles.

Massachusetts is very wide awake to its tuberculosis problem. We have nearly enough beds in hospitals and sanatoria and will have enough when our county hospitals, now in process of construction, are completed; we have dispensaries in every town or city of 10,000 inhabitants or over; we have anti-tuberculosis associations and leagues and many nurses devoting all or nearly all their time to tuberculosis work. But in Massachusetts and elsewhere, we lack one thing, and that is a very big and important thing. We lack anything that approaches adequate instruction in the diagnosis and treatment of tuberculosis for the students in our medical schools.[†] The result is that every year we are giving the degree of doctor of medicine to many young men who have not only no idea of what our tuberculosis problem really amounts to, and the methods of solving it, but also little or no ability to diagnose incipient pulmonary tuberculosis nor to treat it when diagnosed. It very naturally follows that in spite of the really fine anti-tuberculosis machine that we have built up in Massachusetts, we are not getting the results that we should. Far too many wrong diagnoses are made; far too many cases are not diagnosed until the early and favorable stages are passed, and far too many patients are called consumptives who are really suffering from something else. It is this latter group that furnishes the "pulmonary puzzles" referred to in my title, and to which I wish to call attention in this article.

There are many physicians who believe that no harm is done in diagnosing a case as consumption even if it turns out to be something else. The treatment is rest, fresh air, and good food, and this can surely do no harm. Their motto seems to be "When in doubt, call it tuberculosis." True, this attitude does far less harm than the reverse—inability or unwillingness to diagnose tuberculosis—but it certainly does harm none the less. Richard Cabot believes in "truth in medicine"; so do I, and so I hope do all of us, but I also believe in being as certain as it is possible to be that what I tell my patients is the truth.

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[*] Read at a meeting of the Hartford Medical Society, Hartford, Conn., Oct. 15, 1917.

[†] At Tufts Medical School, under Dr. E. O. Otis, there is an excellent course on the subject.—J. B. H.

During the past year in Massachusetts and, I presume, elsewhere, there has been what has almost amounted to an epidemic of what I have called, for lack of a better name, "acute and subacute pulmonary infections." In children many of these are undoubtedly cases of bronchopneumonia; in adults I am frankly in ignorance of their exact pathology. In many ways they resemble cases of early tuberculosis and are often diagnosed as such. I have found such infections more frequently in young adults and generally ones who for some reason or another were run down and physically below par at the time. The present war, with its attendant mental unrest, worry, and physical overwork, has been an evident factor in numerous instances. There is usually a history of a protracted cold that refuses to clear up. In many cases this is the reason for seeking medical advice, while in others weakness, malaise, loss of weight and strength, fever and other constitutional disturbances are what cause the patient to seek an examination.

The history, as far as tuberculosis is concerned, is usually negative; indeed, I have found such infections in persons remarkably healthy and strong up to a few weeks previous to the onset of symptoms. There is apt to be little or no fever and, of particular importance, the pulse usually ranges low. This is a most important point in distinguishing these cases from tuberculosis.

The sputum, which should always be examined with care, is not characteristic. Influenza bacilli may be present, but usually there is a mixture of organisms chiefly strepto- and pneumococci. Blood and urine show nothing and the blood pressure is rarely depressed as is apt to be the case in pulmonary tuberculosis.

Pathological signs in the lungs are usually found at the bases. Occasionally only the apices are involved. Dullness and râles and rarely friction rubs are found in these cases. Changes in voice and breath sounds are uncommon. I have noticed one point I believe to be of value in differential diagnosis—namely, that the extent of the signs in the lungs is quite out of proportion to the subjective symptoms; an acute process of similar extent due to tuberculosis would, in the vast majority of cases, cause marked and striking symptoms. A few type cases are as follows:

Case 1. I. G., a very strong and athletic man of 41, with an excellent family and past history, came to see me with a history of having "felt mean" for one week, with slight pain in one side of his chest. I found a normal temperature and pulse, with a slight friction rub at one base. He stayed in bed for a week, after which he entirely recovered his health and the signs in his lungs disappeared. There has been no recurrence.

This was evidently an idiopathic dry pleurisy. There are many who consider all such pleurisies, wet or dry, to be tuberculous. Personally I do not hold this view, nor do I believe this man had or has tuberculosis. At all events, I never dreamed of reporting it as such, and subsequent events have justified my course.

Case 2. J. A., a woman of 40, came to see me early in May, 1917, because she had been told that she had consumption. One aunt had died of tuberculosis; she, herself, had been delicate as a child, with frequent attacks of bronchitis. She had had pneumonia in January, 1916. She gave a history of a bad bronchitis in August, 1916, since when she had felt poorly, with loss of weight and strength, with some cough and sputum, occasional fever, rapid pulse, and other suspicious symptoms. I found a normal temperature and pulse. She did not look sick. There was a violently harassing cough. In the lungs there were sticky râles all over. Temperature and pulse taken at home four times daily were normal, the pulse ranging from 70-75. Sputum showed bacilli of influenza, but none of tuberculosis. The râles, on my second examination, after taking iodide of potassium, were less numerous. I sent her away for two months, and examined her again recently and found her in excellent condition, with lungs normal.

Perhaps this woman has tuberculosis, but I doubt it. On my first examination there was enough evidence on which to make a positive diagnosis of incipient tuberculosis *providing* the patient could not be kept under close observation and examined more than once. Under the circumstances, however, I do not consider that the original diagnosis of pulmonary tuberculosis was justified.

Case 3. C. H. N. This man, aged 23 years, consulted me July 2, 1917. Family and previous history were excellent. Last May he came down with grippe. He had been working overtime in a munition factory and was tired out and underweight. After watching him for a few weeks, his local doctor told him he had tuberculosis, and reported his case to the local board of health. Another physician sent him to me. I found a temperature of 99, slight anemia and very little else. I could find nothing abnormal in the lungs. Sputum was negative. Temperature taken at home for four days was normal, and the pulse ranged from 60 to 70, and on reëxamination the lungs were again negative. Last week I saw him once more after a three months' interval, during which time he had been working hard, and found him absolutely well in every respect.

Was this tuberculosis and was the first physician justified in calling and reporting it as such, providing the sputum was negative? I should say no, emphatically, to each question. Was any harm done by so doing? In view of the fact that his life has been made miserable, and his wife upset by neighbors who have heard that he has consumption, and that a nurse and other inspectors from the Board of Health still call on him, I should say yes.

In this case, according to information received since writing, my diagnosis, despite my negative findings, was wrong. The physician who made the original diagnosis of consumption called me up and said that the sputum had been found *positive* by the house officer in the local hospital to which he had sent a specimen for examination. This was a month before I saw the patient. Although frankly inclined to doubt this finding of tubercle bacilli, it naturally modifies my course of action in this instance and tends to make me still more conservative and careful in handling future cases of this type.

Case 4. A. C. This woman, a stout Jewess of 38, came to see me October 1, 1917, having been pronounced tuberculous at the out-patient department of a large Boston hospital. On examination preparatory to some operation, her lungs had been found to be "weak." The case had been reported to the local board of health as one of consumption. The family and past history was negative. She had a slight cough with some sputum, and was easily tired and out of breath. The temperature was normal, pulse 112, and weight 196½. There were scattered râles over the tops of both lungs, but no dulness or other abnormalities. The sputum consisted of clear mucus and, as I expected, contained no tubercle bacilli. On my second examination, after giving her hydriodic acid and free purgation, the râles were less evident.

I can hardly imagine why this case was ever diagnosed as tuberculosis. The only possible reason I can see is that the râles were at the apices and not at the bases of the lungs, and this is certainly very slim evidence on which to diagnose consumption.

Such cases as these could be endlessly multiplied; in Massachusetts, at least, this problem they present is becoming a somewhat acute one. Of course, looking at it from one point of view, it is distinctly encouraging that such errors as these are made because it demonstrates that the doctors are alive to the presence of tuberculosis and the need of its early diagnosis. The difficulty is, of course, that we have no definite set standards as to what constitutes pulmonary tuberculosis with absence of a positive sputum To fill this need and for the benefit of the physicians engaged on the three years' tuberculosis demonstration at Framingham, I was asked to prepare, for a committee appointed to do this, a set of definitions on which certain diagnostic standards might be based. These definitions and standards are as follows. Doubtless every physician will wish to modify them, as I have already done, to fit in with his own individual opinions.

DIAGNOSTIC STANDARDS.

1. *Loss of Weight*. By "loss of weight" should be understood any unexplained loss of at least 5% below normal limits for that particular individual within four months' time.

2. *Loss of Strength*. By "loss of strength," in its pathological sense, is meant undue fatigue and a lack of staying power, which are unusual for the individual patient and which cannot be satisfactorily explained.

3. *Fever*. An occasional temperature of 99 should not be considered "fever." A temperature which persistently runs over 99 when taken at least four times a day over a period of one week (by mouth five minutes) should be considered of significance and to constitute "fever."

4. *Elevation of Pulse*. When the average normal pulse of the patient is already known, an elevation of 15 beats per minute, when the pulse is taken quietly at home during various periods of the day, should be considered abnormal. In cases where the average pulse is not known—and of course this constitutes the majority of cases—one should consider an average pulse of 85 or over in men, and 90 or over in women, to be abnormal. The combination of a subnormal temperature and an elevated pulse, as defined here, should be considered of great importance.

5. *Hemorrhage*. Any amount of expectorated blood, with or without sputum, requires medical investigation as to its source. Blood streaks, blood spots, etc., may or may not mean tuberculosis. On the other hand, a hemorrhage of one or two teaspoonfuls is presumptive evidence of the disease.

6. *Family History*. An occasional case of tuberculosis in the patient's uncles, aunts, cousins, etc., should not be considered of importance. It is an important fact when the patient's immediate relatives, such as brothers, sisters, father, mother, or grandparents have been tuberculous.

7. *Exposure*. Childhood exposure is of the greatest importance. Moderate exposure among normal, healthy adults of cleanly habits, is of less importance. Of course, prolonged contact with unhygienic habits or surroundings may be a dangerous factor at any age.

8. *Cough*. There is no cough characteristic of tuberculosis. Every cough that persists for six weeks or over requires investigation. Tuberculosis may exist without any cough whatsoever.

9. *Sputum*. The presence of sputum is not necessary for a positive diagnosis. Constant sputum, with or without cough, requires investigation. Absence of bacilli in the sputum after one or several laboratory examinations is not necessarily proof against the presence of tuberculosis.

10. *Hoarseness*. Any hoarseness or a persistent "huskiness" requires investigation.

On a basis of these definitions the following minimum standards in the diagnosis of pulmonary tuberculosis have been formulated:

1. When constitutional signs and symptoms and definite past history are absent or nearly so, there should be demanded definite signs in the lungs including persistent râles at one or both apices. By "persistent" it is meant that the râles must be present after cough at two or more examinations, the patient having been under observation for at least one month.

2. In the presence of constitutional signs and

symptoms, such as loss of weight and strength, etc., as defined above, there should be demanded some abnormality in the lungs, but not necessarily râles.

3. Usually a process at the apices should be considered tuberculous and a process at the base to be non-tuberculous until the contrary is proved, excepting when a clear history of pleurisy is present.
4. A hemorrhage, as defined above, is evidence of active pulmonary tuberculosis until the contrary is proved.
5. One should consider a typical pleurisy with effusion as presumptive evidence of tuberculosis. One should also consider a dry pleurisy evidence of slight tuberculosis.
6. Pain in chest and shoulders, night sweats, digestive disorders, etc., may be present, and should be investigated.
7. In every doubtful case one should demand that the patient be kept under observation for at least one month, with repeated sputum examinations, before a definite diagnosis is made.
8. Thoroughness and common sense on the part of the physician are the fundamental factors in the diagnosis of early pulmonary tuberculosis. Were they in more frequent use, the "pulmonary puzzles" of which I have spoken, and the "pulmonary tragedies" to which I have only referred, would be less frequent.

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THE DIAGNOSTIC IMPORTANCE OF RECOGNIZING THE ABSENCE OF THE EPILEPTIC MAKE-UP IN STATES SIMULATING IDIOPATHIC EPILEPSY.

By L. Pierce Clark, M.D., New York City.
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If it be true that in essential or idiopathic epilepsy there is a more or less definite make-up, a character type of supersensitiveness, egotism, poor adaptability, and a certain defect in the power for development of the emotional life as contrasted with the intellectual equipment *per se*, then we should expect the absence of these stigmas of personality and character in a beginning case of supposed epilepsy should make us hesitate before finally committing ourselves to a diagnosis and prognosis which the nature of essential epilepsy entails.

I believe that more careful inquiry into the mental make-up in suspected cases of epilepsy will materially aid us in avoiding mistakes in future diagnoses. As a contribution to this end, I shall cite briefly three cases in which the consideration of this rule was of signal value to me.

Case 1 is that of a single man of 36 years of age, who was referred to me two years ago for diagnosis and treatment of a supposed epilepsy. The family history was unimportant. His own personal history in childhood was also unimportant, aside from a single episode which he had when suffering from a septic fever resulting from vaccination. He had an apparently inherited tendency to migraine, as shown in periodic sick headaches, which were common in several members of the family. His mother had suffered from sick headaches all her life, and at her death, three years ago, our patient ceased having sick headaches as such, which had been accompanied by nausea, vomiting, "black spots before the eyes" and classic fortification spectra, followed by short periods of extraphysical prostration. He then began to suffer at definite periods of a few weeks' interval with intensive frontal headaches, which seemed to replace the former migrainous episodes. Attending or following these headaches, he had dizzy spells, apparently lost consciousness, and had a sort of convulsion followed by apparent automatic motor restlessness, that is, he threw himself about the bed, was resistive to a mild degree, and muttered unintelligible phrases. In the coma of ten minutes following these episodes, he would pass into a deep sleep, followed by amnesia of the whole event on waking. The attacks always occurred at night, and usually after the patient had been asleep for an hour or more. After personally witnessing some of the sequelae of these attacks, his family physician concluded that, in spite of the absence of tongue-biting and voiding, the episodes were probably epileptic in character, and were replacement symptoms for the migrainous attacks from which the patient had formerly suffered. He was then given a thorough bromide sedation, and was placed on a dietetic and hygienic regimen such as is generally outlined for the epileptic state. This line of treatment proving of no real value, the case was referred to me. These peculiar attacks at the time he reported to me had increased in frequency to once a week or every ten days.

In an examination of the emotional life, it was found our patient did not possess the essential make-up of an epileptic. While the make-up was infantile in the extreme, and he exhibited little emotional reaction on going over his relations with the mother, nevertheless, taking into consideration that the migrainous episodes had undergone such a decided change at the mother's death, the closeness of his childish attachment to the mother, and his engrossment in memories of her since her death, psychoanalysis was recommended, both for therapeutic as well as diagnostic reasons, it being recognized that ordinary idiopathic epilepsy is not, strictly speaking, capable of psychoanalysis. A short course of investigation by the latter method was undertaken, and almost at once the whole underlying psychogenic nature of the disorder was laid bare, with the result that our patient has had no convulsive attacks since, now a period of two years. Strange to relate, he has not had a single migrainous episode since.

While it is not safe, of course, to withhold a diagnosis of essential epilepsy in the absence of clonic spasm, tongue-biting or voiding, and the other classic symptoms of an epileptic fit, yet their absence, as well as the failure of mental stigma of the epileptic character such as we have grown to expect to find in classic idiopathic epileptics, should make us hesitate in diagnosing essential epilepsy lacking these symptoms. Probably such cases as the foregoing are not common, but even though a few such are detected and cured, the degree of attention required for their delimitation from ordinary epilepsy makes the effort worth while.

Case 2, while not so conclusively psychogenic in causation, has special features worthy of attention. It is that of a married woman of 33 years of age, whose family history was negative aside from the presence of three or four convulsions in the maternal grandmother at 55 years of age, which continued until her death at 59; the exact nature of these attacks was not made clear. Our patient had five convulsions in all, apparently *grand mal* in type, one of which was attended by tongue-biting, but without voiding. The attacks spread over a period of two years. In the last episode of attacks, a year ago, she had three in one night. An ordinary general physical examination disclosed nothing to cause the attacks. She was then referred to me as a case of epilepsy. The complete absence of an epileptic make-up was not so clear in this case as in the first one just given, as our patient's emotional life had been rather rigid in its evolution. At her father's death she had continued such a close attachment to the mother that it had been difficult for her to make a good adult marriage. She had periods of extreme sensitiveness to all sorts of physical adaptations in the new married life. She worried a good deal about a number of apparently trivial things, such as the summer heat, the position of her bed, and certain articles of clothing. Soon after these irritabilities became marked, she lost weight and would seem to long for her mother and her old home surroundings. As just stated, there was evidently a very considerable difficulty in physically and emotionally adapting to the married state. However, while this state of irritation and adaptive stress was present, the attacks did not appear until a true and severe chlorosis occurred. There was thus an intense coincidence of the mental maladjustment plus the anemia. Undoubtedly, the two causes were sufficient to precipitate an attack in one hereditarily predisposed and in one who possessed a supersensitive make-up. Since a series of psychotherapeutic talks, plus the overcoming of the chlorosis, her life is running smoothly again and she is in excellent physical health. An important point in the case was the masked anemia. If a routine blood examination had not been made at one of these recrudescent periods, the chlorosis and its attendant evil effects probably would not have been detected. The blood test at first showed: hemoglobin, 65%; red blood cells, 5,080,000; lymphocytic differential count, 41%. The examination as a whole showed no poikilocytosis, but that of a definite chlorotic true anemia. After a period of two months' treatment the test showed: hemoglobin, 90%; red blood cells, 5,180,000; lymphocytic differential count, 22%. The whole blood picture approximately was that of the normal with little variation in size and shape of the red blood cells.

Case 3 is that of an apparently strong, healthy boy of nineteen years. For several years he had been listless, dull, and lacked concentration. He was not of a robust make-up, and his endurance was poor. While he was poor in mathematics and was backward in all his studies, psychometric performance tests showed he was not feeble-minded. He was classed as incurably lazy by his teachers. For two or three years he had had an almost uniformly bored manner, broken a few times by short periods of boyish enthusiasm, which quickly disappeared. On the whole, the make-up was a rather colorless and indifferent character, which seemed to have no special bent or inclination. Judgment, memory and process of thought were normal.

With a history of this affectless make-up of dementia precox type, there was a history of several classic *grand mal* epileptic attacks. His whole manner of living at home was dispiriting, ambitionless and totally devoid of proper mental hygiene. Simply removing the environmental stresses did not remove the attacks. Not until he was regularly adjusted in a congenial farm environment, with definite duties and privileges and receiving compensation for his work, did the attacks cease. In this new environment he also corrected much of his deterioration of habits.

The case well illustrates a certain type of mild dilapidation of the dementia precox type in which epileptiform attacks not infrequently occur. In the absence of the greater part of the epileptic make-up the relatives were given a fairly good prognosis as far as the epilepsy was concerned, if the life issues could be brought under proper control. The fact that the boy mended at once with a good healthful, commonsense system of living, shows that the tendency to epileptic reactions was not very severe.

One is rather impressed that not a few such cases of mild habit deterioration disorders of adolescence, with occasional epileptiform episodes, occur and that, however guarded the future prognosis of the mental states may be, one is rather safe in saying that the convulsive episodes in such are not true epilepsy with its much more hopeless prognosis.

To summarize: Case 1 is a psychoneurotic disorder with psycholeptic crises apparently cured by psychoanalysis. Case 2 with a partly epileptic make-up and inheritance in which the life adaptation forces of adult life plus a chlorosis engendered a physical and mental stress that brought about convulsive attacks of an epileptiform nature. Given psychotherapy, in which psychoanalytic principles were brought in as aid, plus proper treatment for the anemia, the condition seems to have been brought to an arrest. Case 3 was that of a young man of an inferior and affectless make-up similar to that of the precox type, who had epileptiform attacks under a poorly adjusted environment and home training. By substituting a good common-sense healthy régime, this young man appears to have lived a fairly healthy life without seizures for the past two years.

THE USE OF THE HEMOSTAT IN TONSIL OPERATION.

By Joseph Prenn, M.D., Boston.

The prime object of operative technic is to bring the operation to a point of safety.

This short paper does not claim any new discovery of method; it simply tends to introduce and emphasize in this field of operation the mechanical device of checking bleeding from a vessel, namely, the hemostat, universally used in other operative fields. In the latter, when a vessel is cut, be it an artery or vein, the operator deems it imperative to clamp the same, to get a clear operative field and to prevent the so-called secondary hemorrhage. He would not take any chances, saying that it will stop by itself, for it might, and it might not.

That tonsillectomy is the operation of choice when a tonsil operation is to be performed, the profession is fairly well convinced; that it is a neater and more elegant operation, everybody will agree; and this involves the question of bleeding. In tonsillotomy there is a gush of blood immediately following the operation, because we cut into a large area of mucous membrane of the tonsil, which is very vascular. Barring hemophilics, this ought not to cause any anxiety. The palato glossus and palato pharyngeus muscles, by their active contractions around the tonsil, will also help in checking the bleeding. In tonsillectomy we do not cut into the mucous membrane of the tonsil. We go behind its capsule. Instead, however, we sever the blood vessels that go to form the blood supply of the tonsil directly. When the tonsil did not undergo many inflammatory changes, there are comparatively few and very small vessels that are cut during the process of enucleation. So long as we work on this side of the superior constrictor muscle (and we always do in tonsil operations) we are safe. The constriction of the same by the snare and the active contractions and natural tonus of the superior constrictor muscles through which these vessels go, serve as a hemostat, and as a result we have very little bleeding, or, as some wish to call it, "a bloodless operation." It is different, however, when there were many previous inflammations, peritonsillar abscesses; when during the process of repair, new and larger vessels were formed, which do not always close up immediately by the above-mentioned means. In such a case, the actual loss of blood, as far as the patient is concerned, is not any less, and sometimes more than in tonsillectomy operations (though one may console himself that this occurs after the tonsil has already been removed), unless some means are employed to reduce the bleeding to a minimum.

That we are cutting blood vessels between the capsule and tonsillar walls is a fact that cannot be questioned. Whether the principal vessel is the tonsillar artery from the facial or also branches from the dorsalis linguae, ascending palatine branches, or, as some would have it, that two arteries, the ascending palatine branch of the facial and the descending palatine of the internal maxillary, from which by anastomosis outside the fossa a single artery is formed that makes up the blood supply of the tonsil, the fact remains the same.

Where do we get most of the bleeding points? After enucleation the tonsillar fossa is all covered with blood, but on sponging it out we can see the bleeding points or the severance of the vessels at the superior portion and sometimes also at the base of the tonsil. On clamping the same by the hemostat, the whole field becomes clear. If there is quite an active flow, leave the hemostat in place while doing the other tonsil or the adenoids. The writer once encountered a real spurter, and the hemostat in that case was sufficient to check it. Outside, then, of the fact that there is much less blood lost by using the hemostat after enucleation, there is also a greater sense of security on leaving the patient.

Dr. Israel in the *Laryngoscope* of February, 1917, describes a suction apparatus to maintain a dry field and to lessen the occurrence of postoperative pneumonia in tonsil operation. In the writer's opinion, though the apparatus can be used to advantage, the changing of the position of the head forward during operation, the quick sponging, and the hemostat, will obviate this inconvenience and danger.

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Book Reviews.

Studies from the Rockefeller Institute for Medical Research. Vol. 25. New York. 1916.

This volume consists of a series of 35 papers by members of the Rockefeller Institute, reprinted from various sources. Particular attention may be directed to the work of Stoddard and Cutler on "Torula Infection in Man"; of Jones on a "Transplantable Carcinoma of the Guinea Pig"; of Pearce and Brown on "Renal Injury and Repair"; and of Ingebrightsen on the "Biology of Peripheral Nerves in Transplantation." Rous, Turner and Jones continue their studies of the "Preservation of Living Cells in Vitro" and the "Protection of Pathogenic Microörganisms by Living Cells." Flexner and Amoss report their results in the "Chemical versus Serum Treatment of Epidemic Meningitis"; Louve and Wasteneys present a second communication on the "Efficiency of the Spectrum for the Heliotropic Reactions of Animals and Plants"; and Theobald Smith records a description of "Certain Aberrant Intestinal Protozoan Parasites in the Turkey."

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ALCOHOL AND HUMAN METABOLISM.

No one now doubts the value of alcohol in medicine, and its loss would be almost irreparable. In health, however, there is just as little doubt that alcohol is a luxury and unnecessary for the maintenance of the normal physiologic balance. On the other hand, just as with many other luxuries, it is difficult to demonstrate any tangible harm from the consumption of moderate amounts, except as such small amounts may stimulate the desire for later excessive indulgence. Small amounts of alcohol often give greater poise to the individual, lessen fatigue, and make recovery therefrom somewhat more rapid. On the other hand, nearly all life tables compiled by assurance organizations seem to point to a longer life to the total abstainer. There is, however, as much logic with those who maintain that moderation in alcohol has an indifferent effect. When we come to the all-too-prevalent immoderate use of alcohol, we find that it contributes a very great share to the incidence of human suffering and depravity. It lowers the scale of the stock and causes much of the mental, physical and moral degeneracy. Even without actual boisterous or paralytic intoxication, the immoderate use of alcohol destroys the judgment, shortens the memory and generally disorients the user. In spite of popular notions to the contrary, alcohol is the destroyer of the morale and the morals, rather than the strengthener. It is never fair or wise to trust to immoderate drinkers, or to those who never do without some alcohol, the lives, the welfare, the efficiency of individuals, or the operation of delicate or high-powered machinery. Many railroads are making total abstinence a *sine qua non* of employment. Immoderate users of alcohol are more sensitive to the cravings for alcohol than to the needs or the responsibilities of their particular callings.

The question of the food value of alcohol, and whether it can take the place of real food, is just as much the subject of controversy as the general effects of its use. Only a comparatively small quantity of alcohol can be utilized by the body over long periods without causing tissue changes, especially in the nervous and cardiovascular organs. Of the alcohol taken into the body, nearly all but 5% is consumed. Alcohol is a real food in so much as being consumed in the body it releases energy; and it is an economical food because so much of it undergoes combustion and so little is waste. It would seem to be an especially valuable food because it is so easily diffused and so highly assimilable. When an insufficient amount of carbohydrate or fat is fed to the organism, the protein of the body may be subsidized to overcome this deficiency. When this subsidization actually occurs it is manifested by the increase in the nitrogen elimination derived from the body protein thus utilized. That alcohol may take the place of these foods and conserve food generally, as well as act as a tissue builder, has often been demonstrated by Nauman's experiments in metabolism with the substitution of alcohol for food. The reduction in the fat-food administered and the substitution of alcohol would reduce the elimination of nitrogen when persisted in for a few days, showing, at least, that the protein was not drawn on because of the lack of fat-food. When the normal amount of fat-food was given in addition to alcohol, the nitrogen elimination fell still lower, and rose when the alcohol was then eliminated. It rose still higher when the fat-food, as well as the alcohol, was removed. It follows from these experiments that alcohol can take the place of a chemically equivalent amount of fat-food, and that it causes an economy of the proteins just as do fats and carbohydrates. Of course, this economy cannot be practised in the human body for any considerable period because of the profound narcotic and tissue changes and degenerations that would occur if such economy were forced. On the other hand, intemperance so often is accompanied by malnutrition that it seems that there is a limit of tolerance above which alcohol will fail even as a food conservator.

While the question of strong alcohols may be disposed of on the grounds mentioned, it is not so easy to dispose of the question of the place of the lighter alcoholic beverages, particularly beer. It must be remembered that beer forms a large part of the dietary of workers, and it is not at all unlikely that the affinity for this beverage lies in its protein-saving qualities among a class who may be otherwise protein underfed. Moreover, it has been demonstrated (*Hygienic Laboratory Bulletin*, Feb. 18, 1916) that beer contains a very large amount of vitamine substance. Brewing materials, such as brewer's yeast, have even been used in the treatment of conditions thought to be due to a lack of vitamine feeding. At any rate, when foods containing much vitamine, such as meat, milk, eggs, etc., are high priced, the demand for beverages containing it can easily be understood—and more so, when, because of food conditions existing at present, food shortage is likely to aggravate high prices.

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UNTOWARD SURGICAL COMPLICATIONS.

Newer surgical technic, aseptic precautions, and proper after-care have reduced the risks from the direct effects of surgical operations a great deal, nevertheless there is left a large element of untoward surgical danger that is not affected by these elements, that cannot be foreseen in advance, and for which treatment is not always very satisfactory. The most common and the most serious of these complications are paralytic ileus, thrombo-phlebitis and parotitis. Any of these complications may arise after a comparatively simple operation or after labor, as in the case of thrombo-phlebitis. When a surgical operation must be undertaken to save life, these untoward complications have, of course, not the same embarrassment as when operation is undertaken for non-essential conditions. Much conservatism in surgery is dictated by the possibility of these complications. Although many theories have been advanced in explanation of these complications, none of them is quite satisfying.

While infection would seem to be the cause of the thrombo-phlebitic complication, yet it has been impossible, either clinically or experimentally, to demonstrate that infection is the sole cause. Nor has the theory that it is some endothelial damage or slowing of the blood current from intrinsic blood changes not connected with the operation, received any substantiation. It is not unlikely that, while no one condition can be said to be at the bottom of this particular complication, a great many combined elements, such as vessel wall changes, blood changes, mechanical irritants, proteins released in the course of the operation, and infective agents,—all contribute their part in the etiology of this troublesome and dangerous complication. It seems that operations on the blood vessels and the alimentary canal are most prone to cause this complication, about 2% of operations giving evidence of thrombotic involvement. About 70% of these are in the lungs, and about 10% of all these thrombotic complications terminate fatally.

Parotitis, while a rather infrequent untoward complication in operations on adults, is very common in children, especially after mastoid operations. The absence of inflammatory processes about the blood vessels of the parotid lobule is evidence that the infection does not arise through the blood vessels. It seems to be an ascending infection through Stenson's duct. On examination of the duct in the center of a lobule in the case of this kind of parotitis, it will be found choked with debris and pus. The dense parotid fascia confines the pus and prevents it from pointing early. However, incision should be made early down through this fascia, in order to prevent the danger of a pyemia. Altogether, this complication is the least untoward of all of them; since the prevention of injury to the parotid during anesthesia and the keeping of the teeth clean after operation will prevent a great many of these complications.

The most baffling, and what can be the most rapidly fatal of all, is paralytic ileus. The paralysis of the muscular coat allows distention, sometimes to enormous degrees. This complication is more nearly a complication extrinsic to the operation, but brought about by some constitutional inferiority of the nervous mechanism of the individual, either generally or localized in the nervous tissues controlling this region. Irritation of the splanchnic fibers which inhibit intestinal peristalsis is the most direct cause of this condition. According to McKenna, the paralytic condition is of nervous origin, caused either by disturbances in the anterior cornual cells and in the corresponding sympathetic ganglia, giving rise to the splanchnic fibers, or to disturbances taking place directly in the sympathetic plexuses of Auerbach, Meissner and Billroth, within the walls of the intestines. Undoubtedly these disturbances and the resultant complication will not take place except in individuals with sensitive or unstable nervous systems—in those who are so prone to disturbances of the vegetative nervous system. Individuals predisposed to disturbances of the nervous tissues mentioned, of the sympathetic system, are types conforming to the class known as sympathicotiacs; those in whom the vagus centers are more sensitive to change and disturbances are known as vagotoniacs. In so far as this last complication is concerned, it would be well to pay attention to the nervous constitution of prospective surgical cases not requiring urgent surgical intervention to save life, in order that such eventualities may be anticipated, at least in the marked cases.

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MEDICAL NOTES.

NOURISHMENT OF NEW YORK SCHOOL CHILDREN.—Dr. Henry Dwight Chapin, head of the children's division of the Post-Graduate Hospital, New York, made the statement in an address recently given, that 110,000 out of the 1,000,000 public and parochial school children in that city were undernourished and in need of attention. He believed that war prices were to be blamed for this condition.

NEW ENGLAND ASSOCIATION OF PHYSICAL THERAPEUTICS.—A regular meeting of the New England Association of Physical Therapeutics was held at the Copley Square Hotel, Boston, on Tuesday evening, December 18, 1917. Dr. C. Hermann Bucholz, of Boston, director of the Medico-Mechanical and Hydrotherapeutic Departments of the Massachusetts General Hospital, author of the recent book on Exercise and Massage, gave a talk on that subject.

The election of officers for the ensuing year took place at this meeting, the nominations being: for president, Dr. Frank E. Stowell; for first vice-president, Dr. Samuel J. Harris; for second vice-president, Dr. Arthur H. Ring; for treasurer, Dr. Frank B. Granger; for secretary, Dr. Frederick H. Morse; Executive Council, Dr. Frank E. Goodell, Dr. Solon Abbott, Dr. William McFee.

PROSPECTIVE MEDICAL MEETINGS.—The American Climatological and Clinical Association will meet at the Boston Medical Library, June 5 and 6, 1918, under the presidency of Dr. J. H. Elliott, of Toronto. Immediately succeeding this meeting, the National Association for the Study and Prevention of Tuberculosis will hold its annual meeting.

RELIEF AT HALIFAX.—The doctors and nurses who comprised the state guard unit have been relieved by the Rhode Island Red Cross Unit and have returned home. The Greater Boston Red Cross unit is operating a hospital at St. Mary's College and the Maine Red Cross unit is operating a hospital at the building of the Halifax Ladies' College. An emergency hospital in the Y. M. C. A. building for obstetrical cases is in charge of Dr. E. A. Codman of Boston. Dr. Mackenzie of the Massachusetts Eye and Ear Infirmary, who was one of the unit sent from that hospital to care for the many cases of eye injury, writes as follows regarding his experiences:

"Thirty-six hours without sleep, and my shoes not off, but nevertheless I must write what we were up against—one eye-man in Halifax to treat thousands of injured.

"Of the thousands hurt, approximately one-third are eye injuries and the physical disabilities of this catastrophe will be felt in the future more than those of any other in the history of the world, and for this reason. For a long time the people of Halifax have been constantly on guard against the possibilities of bombardment from the sea or by Zeppelins. (Even here in our hotel room is a big sign warning us to pull all window shades the minute the lights are started, and a penalty of $5000 is imposed upon those who refuse to do so.)

"Halifax has had the idea of an air attack and therefore when a rumbling was heard and vast clouds of dark smoke were seen last Thursday morning, thousands ran to their windows and looked up in the air. Then came the explosion, which shattered nearly every window right in their faces. So it is that at other hospitals and at the Victoria General, the Children's Hospital and the Blind Institute, where Dr. Goodall and I are working, more than a third of the cases are eye cuts.

"Dr. Mather, who sent for us, worked alone for three days, before we arrived, without even a wink of sleep. He did more than seventy-five enucleations and eviscerations—some of these in an operating room with the snow blowing in on the patient and himself. No wonder that we found him a physical wreck.

"I immediately took full responsibility, for he surely was no longer capable, and he wished me to. I went over, personally examining about 125 eye cases, in the Victoria General Hospital and sent Dr. Goodall with a Newton Hospital nurse, who came on the train with us, to look over the Children's and the Blind hospitals. We all worked incessantly for several hours, and then, after a few bites, began operating. When I had a chance to see Dr. Mather again, he agreed with me that there is need of fresh nurses, and particularly those capable of treating eye cases, many of which are exceedingly serious. We have begun to systematize things, and are gathering all the eye cases together, with the idea of saving time and energy for all concerned. Dr. Stevens came today and he and Dr. Crosby are looking after several of the smaller places.

"Halifax is a wreck. Even newspaper reports cannot truly portray conditions. Relief has come very promptly, and is coming every day. So there seems to be plenty to eat and plenty of ordinary supplies; and help in some lines is plentiful.

"This is hastily written, and with eyes half-closed. The chance to work here is surely the greatest opportunity we have had and our regret is that we couldn't have come sooner."

WAR NOTES.

DEATH OF MEDICAL RESERVE OFFICER.—Report is received from General Pershing of the death of First Lieutenant Edgar W. Young, Medical Reserve Corps, attached to British Forces in France. He had been severely wounded in action.

HEALTH OF GERMAN ARMY.—From Copenhagen comes a report of the health of the German Army, which states that the percentage of illness among both soldiers and sailors is steadily decreasing. In the Army the number of cases of illness is now about 20 per cent. lower than in the first year of war. For the Navy very complete reports are published, indicating that the number of cases of illness per 1000 men is about 25 per cent. lower than in peace time.

Diseases of the organs of nutrition furnish more patients in the naval hospitals than any other single cause, but it is stated that the number even of these cases shows a steady improvement, falling from 78 per 1000 men in peace times to 56. Tuberculosis shows a slight increase, but other diseases of the respiratory organs have decreased very largely. Nervous disease has decreased slightly, diphtheria has almost disappeared, scarlet fever shows a slight increase.

ENLISTMENT OF PHYSICIANS.—A recent number of *Leslie's Magazine* comments as follows upon the reluctance of medical men to enlist in the Medical Reserve Corps.

"The most surprising feature of our preparation for war is the apparent reluctance of young American physicians to volunteer for the Medical Officers' Reserve Corps. The War Department estimates a need of 21,000 men for hospital service.

Seventeen thousand five hundred physicians have been recommended for commissions, but up to Oct. 12, 1917, about 1200 of this number had declined to accept the commissions offered to them. Two hundred of those who were willing to go to the front had to be discharged because of physical disqualifications or for other reasons. Consequently there is a shortage of several thousand men in the Medical Reserve Corps.

Here is a curious situation. The Army offers physicians the right to wear the uniform of an officer, an opportunity to gain invaluable experience in the field hospitals and incomes larger than the average physician's earnings.

Fear of danger cannot enter into the problem. The total casualties among medical officers of the Allied armies on the Western front from the beginning of the war to June 25, 1917, were 195 killed, 707 wounded and 62 deaths from disease. These figures, compared with the number of physicians employed at the front, prove that the medical officers' work behind the trenches is scarcely more hazardous than the ordinary risks of civil life. Quite aside from the question of patriotism, it is impossible to understand why Medical Corps commissions are going begging."

REPORT OF THE NAVY.—Dr. Braisted in reporting the causes of death for the navy during the past year says deaths rose to 4.83 per 1000, against 4.48; but 36 of these deaths were men lost with the U. S. S. *Memphis* at Santo Domingo. Drowning took 74 lives during the year, including the men of the *Memphis;* tuberculosis, 39; pneumonia, 22; burns, 16; wounds, 13 (Haiti and Dominican campaigns), and nephritis, 13. For the second time in the history of the service there was no death from typhoid.

DEATHS AMONG U. S. TROOPS IN FRANCE.—General Pershing has reported deaths among United States troops in France from December 12th to 14th, inclusive, as follows: From pneumonia and its complications, five deaths; scarlet fever, one; accidents, three.

TUBERCULOSIS AMONG DRAFTED MEN.—In addressing a conference of dispensary nurses at the

State House, Health Commissioner Allan J. McLaughlin stated that more than 1000 cases of unsuspected tuberculosis were revealed in Massachusetts by the physical tests to which the selected men of the first draft quota were subjected.

HEALTH CONDITIONS IN ARMY CANTONMENTS.—The Surgeon-General's report for the week ending December 7th states that the measles epidemic in the camps of the 30th, 31st, 38th and 39th Divisions of the National Guard troops no longer constitutes a menace. Pneumonia following measles is particularly increased in the 36th Division and slightly increased in the 34th, 38th and 39th. All other National Guard camps show a decrease in measles, although there have been a number of cases of pneumonia independent of measles in all National Army and National Guard camps. The report shows 190 deaths during the week in the National Guard, of which 171 were from pneumonia and 74 deaths in the National Army, of which 47 were from pneumonia.

WAR RELIEF FUNDS.—On Dec. 20 the totals of the principal New England war and relief funds reached the following amounts:

Halifax Relief Fund	$579,484.38
French Wounded Fund	304,719.81
French Orphanage Fund	135,546.09
Cadet Engineers' Fund	6,481.40
War Dogs' Fund	2,265.28

NEW ENGLAND NOTES.

NASHUA MEDICAL SOCIETY.—The Nashua Medical Society at its December meeting on the eleventh instant listened to an illustrated talk on "Vasomotion and Blood Pressure" by Dr. George V. N. Dearborn of Boston, giving the results of some of his investigations in that promising direction.

BOSTON AND MASSACHUSETTS.

FIRST AID WORK IN INDUSTRIAL ESTABLISHMENTS.—In the fourth annual report of the State Board of Labor and Industries appears the following note on the establishment of welfare and first aid departments in industrial plants. "There have been 1078 orders complied with by different establishments to install medical and surgical chests for the treatment of persons taken ill or injured on the premises. More than 300 establishments have organized 'welfare departments' under the supervision of either physicians and nurses, or nurses and foremen or forewomen."

The appointment of nurses to various industrial establishments not under medical supervision has given rise to considerable controversy because of the responsibility associated with such appointment. It is the general opinion that all nurses engaged in welfare work in industrial establishments should work under the direction of a physician, who should be held responsible for the treatment given and for the after-care of the injuries received.

NEW TUBERCULOSIS SANATORIUM.—Plans are being made for the erection of a new tuberculosis sanatorium at Rutland, Mass. It will be called the Crane Sanatorium and will be under the direction of Dr. Bayard T. Crane, with a medical staff which will include Dr. Walter C. Bailey, Dr. Vincent Y. Bowditch, Dr. Albert C. Getchell, and Dr. Loring T. Swaim. The sanatorium is designed to care for cases of tuberculosis which occur among American troops, and when war is over it will become part of the colony of the present Rutland sanatoria and serve for the civil population. Funds of not less than $100,000 are needed to establish this sanatorium. Contributions or pledges may be sent to Leonard W. Cronkhite, treasurer, care of the Merchants National Bank, Boston.

The Massachusetts Medical Society.

NOTES FROM THE DISTRICT SOCIETIES.

DISTRICT CORRESPONDENTS.

Bristol North, ARTHUR R. CRANDELL, M.D., Taunton.
Berkshire, A. P. MERRILL, M.D., Pittsfield.
Bristol South, EDWIN D. GARDNER, M.D., New Bedford.
Essex North, T. N. STONE, M.D., Haverhill.
Essex South, H. P. BENNETT, M.D., Lynn.
Hampden, LAURENCE D. CHAPIN, M.D., Springfield.
Hampshire, E. E. THOMAS, M.D., Northampton.
Middlesex South, WILLIAM C. HANSON, M.D., Belmont.

MIDLESEX SOUTH DISTRICT MEDICAL SOCIETY.—We were permitted to hold a meeting at the Base Hospital, Camp Devens, Ayer, on Thursday, November 15, and were cordially received and entertained by members of the Hospital Staff. Addresses were given by Maj. Glenn L. Jones, M.C., Commanding Officer of the Hospital, and by Maj. William L. Cousins, M.R.C., Chief of Surgical Staff. After the meeting, opportunity was given the 200 members present to see the Hospital. The occasion was timely and exceedingly interesting.

The personnel of the Middlesex South District Committee, Council of National Defense, Medical Section, is as follows:

George T. Tuttle, Chairman, Waverley
William D. Swan, Cambridge
Charles C. Foster, Cambridge
George L. West, Newton Center
Henry S. Rowan, Brighton
Conrad Bell, Waltham
Thomas M. Durrell, Somerville
Charles E. Prior, Malden
Lewis M. Palmer, Framingham
William C. Hanson, Secretary, Belmont

Following is a list of physicians practising in the Middlesex South District who are in the military or naval service of the United States or the Allies*:

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George A. Biondi, Framingham
William H. Blanchard, Allston
James T. Buckley, Marlborough
Harry C. Burrell, Medford
Patrick F. Butler, Allston
William R. Byrne, Framingham
Frederick B. M. Cady, Cambridge
Franklin E. Campbell, Medford
Willis E. Clarke, Malden
Thomas J. Courtney, Waltham
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William E. Hamlin, Waltham
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Donald Macomber, West Newton
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English N. McLaughlin, Newton
Frank L. Morse, Somerville
John J. Murphy, Cambridge
Walter Joseph Otis, Waverley
Albert S. Owen, Framingham
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William B. Reid, Newton
J. Arnold Rockwell, Cambridge
Charles F. Sharry, Somerville
Horace P. Stevens, Cambridge
William W. Walcott, Natick
James J. Walsh, Lexington

(Signed) William C. Hanson,
District Correspondent.

◆

Obituary.

RAMON GUITERAS, M.D.

Dr. Ramon Guiteras, known internationally as a surgeon and a sportsman, died in New York on December 13, of meningitis. Dr. Guiteras was born in 1859, and was a cousin of Dr. Juan Guiteras, well known for his work in yellow fever. Dr. Guiteras received his medical education at the Harvard Medical School. He had served on many advisory boards and was secretary for many years of the Pan-American Medical Congress. He was the author of two books on surgery and had made many trips to European battlefields in the interests of his specialty. He was at work on a third book when death overtook him. Dr. Guiteras was a member of the American Medical Association and a Fellow of the American College of Surgeons, besides many social organizations. He was a bachelor and had lived in New York for many years.

◆

Correspondence.

A SUGGESTION.

State House, Boston, Dec. 11, 1917.

Mr. Editor:—

I have followed, with interest, the hearings, at the State House, of the Social Insurance Commission, and particularly those at which the medical men have taken part. I have been struck by their lack of enthusiasm over any particular advance in the way of legislation. As they are specialists, I have felt that if they, having at heart the health of the community, took this position, the Commission ought to go slow. My emotions have been varied.

I have heard an eminent practitioner, who appeared voluntarily and courteously, asked if he were there to protect the gate reecipts of the profession, which he, perhaps with reason, resented. I have heard a leading member of the Massachusetts Medical Society, upon gentle interrogatory, with a rare economy of diction, decline to answer the most proper questions, and even challenge the Commission to separate him from an answer, and then tell one of its members how he might more closely approach his ideal.

The doctors and the commissioners seemed to fail to get together, or perhaps to threaten to get too closely together.

I have a great respect for the medical fraternity, and for their interest in conserving and raising the plane of the public health, and have no reason to suspect them of any unworthy motive or of any wish but to help the Commission.

I have been impressed by their failure to advocate any form of legislation. If they, as specialists, take this attitude, the Commission, with a proper respect for the result of their study, perhaps ought to go slow.

And yet, I should like to see progress made.

I know that it is easier to criticize than to frame a proposition.

For these reasons, I append a proposition which has been brought to my notice. It seems to me, unlike some other health propositions which look good to me, that this would not meet with that political opposition which too often discourages the study and prosecution of a good bill. A bill which is good but which cannot be passed into law has little value outside of the files of an office or library.

I submit this Free School Health suggestion because I should like to know, if it lacks strength, where it is weak, and, through the columns of this paper, perhaps this may best be done.

Yours truly,
R. M. Washburn.

FREE SCHOOL HEALTH.

We believe that medical diagnosis, advice, medicine and surgery should be even more within the reach of the people than at present, and with less of a coloring of charity, which often humiliates and repels. We believe that medicine should, as much as possible, be kept out of politics, and that its rewards should be large enough to keep it on the highest and most efficient plane. We believe that legislation should be slow and safe, and that legislation for the young has a preventive strength, for the field, while narrow, strikes all the people. ....After the analogy of free text-books, we believe in further progress toward free health for all school pupils.

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* The Secretary will be glad to receive notice of errors and omissions in this list.

The present treatment of pupils in this State seems to lack completeness. It has not gone far enough. Methods vary with the locality, also the number of physicians and nurses per pupil, while all could use, it seems, more money.

We believe in developing this work with due regard to the principle of home rule, and, for the sake of uniformity, that it should be done under the supervision of both the local and state school boards and boards of health; and to eliminate opposition, the operation of the law should be made optional with the parent.

In order that the start may be made safe, and recognizing the undesirability of assuming the care of all troubles and the difficulty of discrimination, treatment should begin and stop, for the present, at medical diagnosis in all cases, and the medical and surgical care of the eyes, ears, noses, teeth and nervous systems of the pupils.

For simplicity, and because of lack of funds in some of the towns, the bills should be paid by the Commonwealth.

◆

FURTHER CONCEPTS OF INSANITY.

Boston State Hospital, Psychopathic Dept.,
74 Fenwood Road, Boston, Dec. 16, 1917.

Mr. Editor:—

I have read with some interest the editorial on "A Broader Conception of Insanity," and believe there are certain points therein which might be further touched upon.

In the first place, the fundamental conceptions of insanity and of mental disease are different in scope, if not in quality. Dr. Southard has always correctly insisted that insanity is a legal diagnosis; mental disease or diseases, medical diagnosis. The point is very well taken that people show the evidences of their mental disorder in conduct, and that it is for conduct disorders that they are adjudged insane (or criminal, or feebleminded, etc.). But the editorial seems to me to involve a considerable mingling of concepts.

Practically considered, we may erect a basic classification of mental states which is logically defensible in this way:

Mental diseases (as is true of disease in general) may be due to defective development (early arrest) or to an active process (either self-limited and reversible, as in the manic depressive psychoses, or progressive as in paresis). To the first we have applied the name "feeblemindedness," to the second, psychosis.

We have also a group of defects or anomalies of development which are circumscribed in nature—which may, indeed often do, form the groundwork for the erection of a psychosis. There are the psychopathias or psychopathic personalities of Kraepelin. They are allied to the group with generalized defect.

Then there is a group with an active process, in which the twists are, so to speak, intramural—*i. e.*, the alterations are largely confined to the individual. These are the psychoneuroses.

We may speak, then, of two major groups of mental diseases, each having two sub-groups:

I. Mental disease due to defective development.
  (*a*) General="feebleminded."
  (*b*) Circumscribed=psychopathic personality

II. Mental disease due to an active process.
  (*a*) General=psychoses
  (*b*) circumscribed=psychoneuroses.

Within these four groups there are all types of intergradation. The distinction between some of them is often a matter of degree only (*vide* the dementia precox cases with prodromal psychoneurotic stage).

Now these are the mental diseases from the medical point of view. Any patient in any group *may be* insane in the legal sense or he may not be. We see at this hospital many patients with mental disease of one sort or other who are not insane. One of our important questions is "Is this patient also insane?"

I cannot agree *in toto* with the views expressed in the last paragraph. In the first place, we have been trying for some decades to get away from the point of view that the insane are to be outlawed. To revive this view means a reversion to the type of treatment which is fatal to the aims of society, and would retard the progress of psychiatry enormously.

Practically, there are two different types of cases to be sent to state hospitals. One type is dangerous to himself or the community. The other is the early case, especially dementia precox, without as yet any very serious social conflict, but one which we hope to save by early and intensive treatment.

It is this second type which we, as psychiatrists, especially want to reach. It is the first type with which the alienist is especially interested. There is here a very important distinction in terms.

To be sure, the psychiatrist cannot wholly divorce his work from legal ideas and standards, and he often must take the part of an alienist, but it is, I think, largely true that there is a decided difference in the relationship of the two to the patient and to the public.

It is perfectly true that the borderline between mental health and disease is very difficult to define. Yet as in other organs, pathological states may exist which are not of serious import. Yet even mild grades may very markedly impair responsibility. Certainly many *criminals* are not entirely responsible without being feebleminded or psychotic. Here, however, the general social situation and standards are of great account.

We need, then, particularly to realize that psychiatry is concerned fully as much with the whole individual as in medicine in general, and, in addition, carries a larger, social duty than any other branch of medicine. To achieve its ultimate aims, it must come in closer contact with society, and the psychiatrist and hospital for mental disease must be more accessible to the patient.

Yours very truly,
LAWSON G. LOWREY, M.D.,
Chief-of-Staff.

◆

RECENT DEATHS.

DR. HENRY A. DUNN, medical inspector in the United States Navy, died suddenly on December 13, in Brooklyn, N. Y. Dr. Dunn was 43 years of age, and in Government service for sixteen years. He had been assigned to the hospital ship *Havana*. He is survived by his widow and a son.

DR. ALEXANDER M. WOOD of Cambridge, Mass., died at his home in that city recently. He was born at Richebuclo, N. B., on August 5, 1835, and graduated from Harvard College in 1863. For a few years he practised medicine and then entered business, becoming the senior member of the A. M. Wood Lumber Company of Boston and Cambridge.

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